NASA Video Catalog

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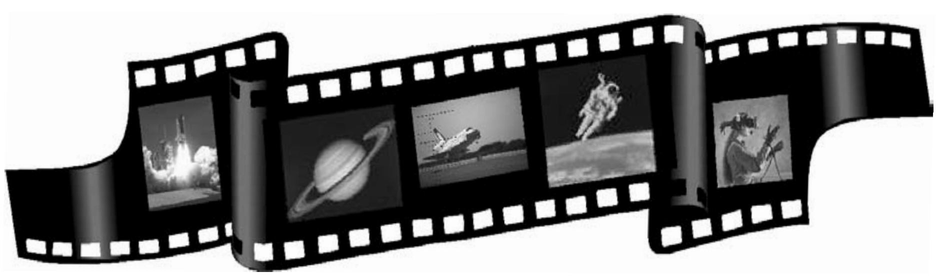
July 2009

VIDEO



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Langley Research Center
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Introduction

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Each entry in the catalog consists of a standard bibliographic citation accompanied by an abstract, and some also include links to low- and medium-resolution previews. The table of contents lists the subject matter covered according to the *NASA Scope and Subject Category Guide*. In addition, a title index is included, and the subject term index is based on the *NASA Thesaurus*. Guidelines and terms and conditions for usage of NASA audio/visual materials, and ordering information are also included.

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Subject Divisions/Categories

Document citations are grouped by division and then by category, according to the *NASA Scope and Coverage Category Guide.*

Aeronautics

Astronautics

Chemistry and Materials

Engineering

Geosciences

Indexes

Two indexes are available. You may use the find command under the tools menu while viewing the PDF file for direct match searching on any text string. You may also select either of the two indexes provided for linking to the corresponding document citation from *NASA Thesaurus* terms and personal author names.

NASA
VIDEO CATALOG

A Publication of the National Aeronautics and Space Administration

JULY 2009

01
AERONAUTICS (GENERAL)

Includes general research topics related to manned and unmanned aircraft and the problems of flight within the Earth's atmosphere. Also includes manufacturing, maintenance, and repair of aircraft. For specific topics in aeronautics, see categories 02 through 09. For information related to space vehicles see 12 Astronautics.

19940029066 NASA Lewis Research Center, Cleveland, OH, USA
NACA fire crash research
JAN 1, 1992; In English; 39 min. playing time, in color, with sound
Report No(s): NASA-TM-109794; NONP-NASA-VT-94-12922; No Copyright; Avail: CASI: C01, DVD

This video provides a better understanding of the important factors involved in the start and spread of crash fires, as a necessary first step leading to significant reduction in the crash fire hazards.
CASI
Accidents; Crashes; Fires; Flight Safety

19950004297 NASA Dryden Flight Research Center, Edwards, CA, USA
Dryden and transonic research
May 27, 1992; In English; 20th Anniversary F-8 Digital Fly-By-Wire (DFBW) and Supercritical Wing (SCW) Symposium, 1995; 30 min. playing time, in color, with sound
Report No(s): NASA-TM-104281; NONP-NASA-VT-94-23629; No Copyright; Avail: CASI: C01, DVD

This video on transonic research is given by Dryden engineer Ed Saltzman as part of the 20th Anniversary F-8 Digital Fly-By-Wire (DFBW) and Supercritical Wing (SCW) Symposium.
DFRC
F-8 Aircraft; Fly By Wire Control; Research; Supercritical Wings; Transonic Flow

19950004337 NASA Dryden Flight Research Center, Edwards, CA, USA
NACA/NASA: X-1 through X-31
Apr 4, 1994; In English; 28 min. playing time, in color, no sound
Report No(s): NASA-TM-104304; NONP-NASA-VT-94-23649; No Copyright; Avail: CASI: C01, DVD

This video presents clips (in-flight, ground crew, pilots, etc.) of almost everything from X-1 through X-31.
DFRC
Research Aircraft; Research Projects

02
AERODYNAMICS

Includes aerodynamics of flight vehicles, test bodies, airframe components and combinations, wings, and control surfaces. Also includes aerodynamics of rotors, stators, fans, and other elements of turbomachinery. For related information see also 34 Fluid Mechanics and Thermodynamics.

19940009148 NASA Lewis Research Center, Cleveland, OH, USA
A future view of computational science in aircraft
Aug 1, 1989; In English; 9 min. 26 sec. playing time, in color, with sound
Report No(s): LERC-CV-108; NASA-TM-109284; NONP-NASA-VT-93-185300; No Copyright; Avail: CASI: C01, DVD

The accomplishments of LeRC in the field of computational fluid dynamics are presented.

Author (revised)

Aircraft Design; Computational Fluid Dynamics; Research Facilities

19940009159 NASA Langley Research Center, Hampton, VA, USA
HL-20 personnel launch system
Sep 1, 1990; In English; 5 min. 25 sec. playing time, in color, with sound
Report No(s): LARC-HL20-PLS; NASA-TM-109292; NONP-NASA-VT-93-185307; No Copyright; Avail: CASI: C01, DVD

An overview of lifting body research to include LaRC's full scale engineering research model is presented.

Author (revised)

Launchers; Lifting Bodies; Lifting Reentry Vehicles; Spacecraft Launching; Spacecraft Models

19940014491 NASA, Washington, DC, USA
Airflow research
Dec 1, 1985; In English; 3 min. 5 sec. playing time, in color, with sound
Report No(s): ASR-239; NASA-TM-109372; NONP-NASA-VT-94-198219; No Copyright; Avail: CASI: C01, DVD

This is an overview of research being done in laminar flow at Ames Dryden Flight Research Center and Langley Research Center. Airflow research at Ames Dryden has resulted in a special wing covering that will artificially induce laminar flow on the wing surface; this specially adapted wing is shown being tested in different flying conditions. This video also features research done at Langley in producing a chemical covering for wings that will make visible natural laminar flow and turbulent airflow patterns as they occur. Langley researchers explain possible use of this technology in supersonic flight.

CASI

Air Flow; Coatings; Flow Visualization; Laminar Flow; Wings

19940022658 NASA Langley Research Center, Hampton, VA, USA
Leading-edge Vortex-system Details Obtained on F-106B Aircraft using a Rotating Vapor Screen and Surface Techniques: Video supplement to NASA Technical Paper 3374
Lamar, John E.; Brandon, Jay; Stacy, Kathryn; Johnson, Thomas D., Jr.; Severance, Kurt; Childers, Brooks A.; Nov 1, 1993; In English; See also 19940019039; See also 94N23512, NASA-TP-3374; color and sound
Contract(s)/Grant(s): RTOP 505-59-30-03
Report No(s): NASA-TP-3374-VIDEO-SUPPL; L-0793-127; NAS 1.60:3374-VIDEO-SUPPL; NONP-NASA-SUPPL-VT-94-209775; No Copyright; Avail: CASI: C01, DVD

In this video (16 min., color, sound) the following sequences are presented: flight-test operational procedures; animation of post-processing key elements; digitization process of flight video; extractor procedure demonstration; reconstructor procedure demonstration; reconstructor used to compare flight results from 1985 with those in 1991; enhancer procedure demonstration; and mapping of oil-flow photograph onto surface geometry for comparison with vapor-screen-determined vortex characteristics.

Author

F-106 Aircraft; Flow Visualization; Leading Edges; Vortices

19950004144 NASA, Washington, DC, USA
Scientific balloons
Dec 1, 1991; In English; 3 min. 38 sec. playing time
Report No(s): NASA-TM-109907; NONP-NASA-VT-94-23149; ASR-258; No Copyright; Avail: CASI: C01, DVD

This video discusses how NASA uses large helium-filled balloons to take payloads up 25 miles to the edge of space to gather data. Balloons provide a cost effective approach to reach these heights.

CASI

Balloon Sounding; High Altitude Balloons

19950013580 NASA Dryden Flight Research Center, Edwards, CA, USA
F-16XL interview with Marta Bohn-Meyer
Jul 27, 1992; In English; 30 min. playing time, in color, with sound
Report No(s): NASA-TM-110505; NONP-NASA-VT-95-41117; No Copyright; Avail: CASI: C01, DVD

Marta Bohn-Meyer discusses the cooperative research between Rockwell Industries and NASA research facilities in their effort to optimize and maintain the supersonic laminar flow on the F-16XL aircraft. Research on the airfoil design, chord optimization, introduction of a suction feature to maintain pressure distribution, and CFD, both theoretical and actual phenomena, are discussed. Bohn-Meyer discusses the difference between supersonic and subsonic laminar flow, cross flow, reasons behind using this particular F-16 aircraft for this research, and the future of this ongoing research, including the data base that investigators are building from wind tunnel data and in-flight validation.

DFRC

Aircraft Design; Airfoils; F-16 Aircraft

19970005033 NASA Johnson Space Center, Houston, TX USA
Wind Tunnel Tests of an Inflatable Airplane
Oct. 09, 1996; In English; 32 min. playing time, in color, with sound
Report No(s): NASA-TM-111830; L-1642; NONP-NASA-VT-97-1997005936; No Copyright; Avail: CASI: C01, DVD

In this video a wind tunnel investigation of aerodynamic and structural deflection characteristics of an inflatable airplane is shown. The film includes scenarios during wind tunnel tests of an inflatable airplane in the Langley Full Scale Tunnel with the main objective of obtaining load factors prior to wing buckle of 4.5 to 5.0 g. The inflation pressure during the test was indicated to be 7.0 psi.

CASI

Inflatable Structures; Wings; Buckling; Deflection; Aerodynamic Stalling; Aerodynamic Stability; Aerodynamic Loads; Aerodynamic Characteristics

20070030946 NASA Langley Research Center, Hampton, VA USA
Flow Over Blunt Body at M equals 20 in 2-Inch Helium Tunnel
July 22, 1960; In English; Silent, Black & White, 37ft., 1min.; DVD produced from the original 16mm recording
Report No(s): L-562; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

The film shows flow over blunt body alone, with internal spike, and with external spikes.

CASI

Blunt Bodies; Wind Tunnel Tests; Flow Characteristics; Spikes (Aerodynamic Configurations)

20070030947 NASA Langley Research Center, Hampton, VA USA
Tests of Vortex-Ring Parachute at Supersonic Speed in the Langley Unitary Plan Wind Tunnel
July 18, 1960; In English; Silent, Black & White, 306ft., 8.5min.; DVD produced from the original 16mm recording
Report No(s): L-560; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

For the test, the 12-inch-diameter ‘Vortex-Ring’ parachute was towed behind a conical-nosed cylindrical body 2.25 inches in diameter. The tow-cable length was 24 inches, and was attached to the cylindrical body through a large swivel and to the parachute through a smaller swivel. The attachment between the large swivel an the cylindrical body failed after about

1 minute's operation. Mach number was approximately 2.2, dynamic pressure was approximately 150 pounds per square foot, and camera speed was approximately 3000 frames per second.
Derived from text
Parachutes; Wind Tunnel Tests; Supersonic Speed; Vortex Rings; Swivels

20070030948 NASA Langley Research Center, Hampton, VA USA
High-Speed Schlieren Movies of the Flow About Reefed Parachute Models Towed at Supersonic Speeds Behind a Conical Body (4.875 Inches in Diameter). Drag Values Based on the Unreefed Diameter of 1.73 F. Porosity of Unreefed Parachute is 28 Percent.
June 28, 1960; In English; Silent, Black & White, 550ft., 15.5min.; DVD produced from the original 16mm recording
Report No(s): L-556; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Flexible parachute models reefed to one-eighth, one-fourth, one-third, and four tenths of its diameter were towed at speeds of Mach 1.80, 2.00, 2.20 and 2.87. Towline lengths tested were 23.40, 24.38, 26.81, and 29.25 inches. High-speed Schlieren movies of the flow are shown.
Derived from text
Parachutes; Supersonic Speed; Aerodynamic Drag; Flow Visualization; Wind Tunnel Tests; Supersonic Flow

20070030956 National Advisory Committee for Aeronautics. Langley Aeronautical Lab., Langley Field, VA USA
Schlieren Movies of the 8-Inch Diameter Rigid Parachute Model of the Cook Research Laboratory Taken During the Fourth Phase of Testing in the Langley Unitary Plan Wind Tunnel
September 29, 1958; In English; Silent, Black & White, 845ft., 23min.; DVD produced from the original 16mm recording
Report No(s): L-396; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Canopy Model IV was tested in four different configuration series. Shroud lines were used in the first three series of tests; none were used in the fourth series. Other variables were Mach number (1.77, 2.17, 2.76), dynamic pressure (290, 250, 155 lb per sq ft), camera speed, and attitude.
Derived from text
Wind Tunnel Tests; Parachutes; Rigid Structures; Schlieren Photography

20070030958 National Advisory Committee for Aeronautics. Langley Aeronautical Lab., Langley Field, VA USA
Aerodynamic Heating of Blunt Nose Shapes at Mach Numbers up to 14
April 23, 1958; In English; See also 19710065515; See also NACA-RM-L58E05a; Silent, Black & White 330ft., 2min.; DVD produced from the original 16mm recording
Report No(s): L-316; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Results are presented from investigations of the aerodynamic heating rates of blunt nose shapes at Mach numbers up to 14. The wind-tunnel tests examined flat-faced cylinder stagnation-point heating rates over the Mach number range. The tests also examined heat transfer and angle of attack.
Author (revised)
Aerodynamic Heating; Wind Tunnel Tests; Hypersonic Speed; Supersonic Speed; Blunt Bodies; Noses (Forebodies)

20070030960 NASA Langley Research Center, Hampton, VA USA
Unitary Plan Wind Tunnel Tests of Cook Technological Center Parachutes in the Wake of a Conical-Nosed Cylindrical Body Having a Base Diameter of 2.375-Inches (Part 5 of 6)
May 09, 1962; In English; Silent, Black & White, 17.5 min.; DVD produced from the original 16mm recording
Report No(s): L-729; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

The film depicts two tests of a flat roof, conical inlet canopy parachute. The first test is a series of wind tunnel trials with a flat circular ribbon roof of 22 percent porosity. The second test is a single series of wind tunnel trials with a flat circular

ribbon roof of 25 percent porosity. Variables for both trials include Mach number, dynamic pressure, longitudinal separation distances (x/d), and drag coefficient C(sub d).
Derived from text
Wind Tunnel Tests; Parachutes; Supersonic Wakes; Cylindrical Bodies

20070030962 NASA Langley Research Center, Hampton, VA USA, NASA Ames Research Center, Moffett Field, CA, USA
Aerodynamic Heating and Deceleration During Entry into Planetary Atmospheres
Chapman, Dean R.; April 10, 1962; In English; Sound, Black & White, 1100ft., 29min.; DVD produced from the original 16mm recording
Report No(s): L-713; HQ-5; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Dr. Chapman's lecture examines the physics behind spacecraft entry into planetary atmospheres. He explains how scientists determine if a planet has an atmosphere and how scientists can compute deceleration when the atmospheric conditions are unknown. Symbols and equations used for calculations for aerodynamic heating and deceleration are provided. He also explains heat transfer in bodies approaching an atmosphere, deceleration, and the use of ablation in protecting spacecraft from high temperatures during atmospheric entry.
CASI
Aerodynamic Heating; Atmospheric Entry; Deceleration

20070030965 NASA Langley Research Center, Hampton, VA USA
Unitary Wind Tunnel Tests of 30-Degree Conical Ribbon Parachute and a Rotofoil Parachute Towed in the Wake of a Conical Nosed Cylindrical Body
March 02, 1962; In English; Silent, Black & White, 880ft., 24.5min.; DVD produced from the original 16mm recording
Report No(s): L-683; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Multiple wind tunnel test trials were conducted on a 30 degree conical ribbon parachute with porosities of 30, 27, and 24 percent. Variables were Mach number, dynamic pressure, towline length, and coefficient of drag. A Rotofoil parachute having a porosity of approximately 24 percent was tested, but failed after about 30 seconds of operation at a Mach number of 1.8 All of the parachutes had a nominal diameter and shroud line length of 10 inches. Drag coefficients were based on the area of a circle having a diameter two-thirds of the nominal parachute diameter.
Derived from text
Wind Tunnel Tests; Ribbon Parachutes; Aerodynamic Drag; Conical Bodies; Nose Cones

20070030967 NASA Langley Research Center, Hampton, VA USA
Wind Tunnel Investigation of a Balloon as Decelerator at Mach Numbers from 1.47 to 2.50
McShera, John T.; Keyes, J. Wayne; August 1961; In English; See also 19980227793; See also NASA-TN-D-919; Silent, Black & White, 190ft., 5.5min.; DVD produced from the original 16mm recording
Report No(s): L-628; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

A wind-tunnel investigation was conducted to study the characteristics of a towed spherical balloon as a drag device at Mach numbers from 1.47 to 2.50, Reynolds numbers from 0.36 x 10(exp 6) to 1.0 x 10(exp 6) , and angles of attack from -15 to 15 degrees. Tow-cable length was approximately 24 inches from asymmetric body to cone on the upstream side of the balloon. As the tow cable was lengthened the balloon reached a point in the test section where wall-reflected shocks intersected the balloon and caused severe oscillations. As a result, the tow cable broke and the inflatable balloon model was destroyed. Further tests used a model rigid plastic sphere 6.75 inches in diameter. Tow cable length was approximately 24 inches from asymmetric body to the upstream side of the sphere.
Author (revised)
Tethered Balloons; Wind Tunnel Tests; Supersonic Speed; Drag Devices; Brakes (For Arresting Motion)

20070030970 NASA Langley Research Center, Hampton, VA USA

Aerodynamic Characteristics of Parachutes at Mach Numbers from 1.6 to 3

Maynard, J. D.; February 1961; In English; See also 20010024158; See also NASA-TN-D-752; Silent, Black & White, 1000ft., 31min.; DVD produced from the original 16mm recording

Report No(s): L-598; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

A wind-tunnel investigation was conducted to determine the parameters affecting the aerodynamic performance of drogue parachutes in the Mach number range from 1.6 to 3. Flow studies of both rigid and flexible-parachute models were made by means of high-speed schlieren motion pictures and drag coefficients of the flexible-parachute models were measured at simulated altitudes from about 50,000 to 120,000 feet.

Author (revised)

Supersonic Speed; Wind Tunnel Tests; Aerodynamic Drag; Drag Chutes; Aerodynamic Coefficients

20070030972 NASA Langley Research Center, Hampton, VA USA

High Speed Schlieren Studies of Flow Over Mercury Atlas Vehicle in the Langley 2-Foot Transonic Aeroplasticity Tunnel

December 02, 1960; In English; Silent, Black & White, 535ft., 15min.; DVD produced from the original 16mm recording

Report No(s): L-583; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Test conditions for the studies are: Mach number varying continuously from approximately 0.8 to 1.1 and Reynolds number (based on maximum diameter of Atlas) approximately 0.451 x 10(exp 6). Camera speed is 2000 frames per second.

Derived from text

Transonic Wind Tunnels; Mercury Spacecraft; Atlas Launch Vehicles; Transonic Speed; Schlieren Photography

20070030973 NASA Langley Research Center, Hampton, VA USA

High-Speed Schlieren Movies of Decelerators at Supersonic Speeds

August 10, 1960; In English; Silent, Black & White, 245ft., 7min.; DVD produced from the original 16mm recording

Report No(s): L-569; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Tests were conducted on several types of porous parachutes, a paraglider, and a simulated retrorocket. Mach numbers ranged from 1.8-3.0, porosity from 20-80 percent, and camera speeds from 1680-3000 feet per second (fps) in trials with porous parachutes. Trials of reefed parachutes were conducted at Mach number 2.0 and reefing of 12-33 percent at camera speeds of 600 fps. A flexible parachute with an inflatable ring in the periphery of the canopy was tested at Reynolds number 750,000 per foot, Mach number 2.85, porosity of 28 percent, and camera speed of 36oo fps. A vortex-ring parachute was tested at Mach number 2.2 and camera speed of 3000 fps. The paraglider, with a sweepback of 45 degrees at an angle of attack of 45 degrees was tested at Mach number 2.65, drag coefficient of 0.200, and lift coefficient of 0.278 at a camera speed of 600 fps. A cold air jet exhausting upstream from the center of a bluff body was used to simulate a retrorocket. The free-stream Mach number was 2.0, free-stream dynamic pressure was 620 lb/sq ft, jet-exit static pressure ratio was 10.9, and camera speed was 600 fps.

Derived from text

Schlieren Photography; Brakes (For Arresting Motion); Supersonic Speed; Parachutes; Retrorocket Engines; Vortex Rings; Paragliders; Aerodynamic Characteristics

20070030995 NASA Langley Research Center, Hampton, VA USA

Performance of a 16.6 Meter Diameter Cross Parachute in a Simulated Martian Environment

Lundstrom, Reginald R.; Darnell, Wayne L.; Coltrane, Lucille C.; February 1968; In English; See also 19680012364; See also NASA-TM-X-1543; Silent, Color, 112ft., 3min.; DVD produced from the original 16mm recording

Report No(s): L-985; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Inflation and drag characteristics of a 54.4-foot (16.6 meter) nominal-diameter cross parachute, deployed at a Mach number of 1.65 and a dynamic pressure of 12.68 lb/sq f t (607.1 N/m(exp2)), were obtained from the fourth balloon-launched flight test of the Planetary Entry Parachute Program (PEPP). After deployment, the parachute quickly inflated to a full

condition, partially collapsed, and then gradually reinflated while undergoing rapid oscillations between over-inflation and under-inflation. The oscillations began while the parachute was still at supersonic speeds and continued to low subsonic speeds well below an altitude of 90,000 feet (27.4 km). These canopy instabilities produced large cyclic variations in the parachute's drag coefficient. The average value of drag coefficient was about 0.8 to 0.9 at subsonic speeds and slightly lower at supersonic speeds. These drag coefficient values were based on the actual fabric surface area of the parachute canopy. The parachute sustained minor damage consisting of two canopy tears and abrasions and tears on the riser line. It is believed that this damage did not produce a significant change in the performance of the parachute.
Author
Aerodynamic Drag; Atmospheric Entry Simulation; Inflating; Parachutes; Supersonic Speed; Subsonic Speed

20070030996 NASA Langley Research Center, Hampton, VA USA
Performance of a 16.6 Meter Diameter Modified Ringsail Parachute in a Simulated Martian Environment
Whitlock, Charles H.; Henning, Allen B.; Coltrane, Lucille C.; January 1968; In English; See also 19680004623; See also NASA-TM-X-1500; Silent, Color, 150ft., 4.2min. DVD produced from the original 16mm recording
Report No(s): L-984; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Inflation, drag, and stability characteristics of a 54.5-foot nominal-diameter (16.6-meter) modified ringsail parachute deployed in the wake of a 15-foot-diameter (4.6-meter) spacecraft traveling at a Mach number of 1.6 and a dynamic pressure equal to 11.6 psf (555 N/m(exp 2)) were obtained from the third balloon-launched flight test of the Planetary Entry Parachute Program. After deployment, the parachute inflated rapidly to a full condition, partially collapsed, and reinflated to a stable configuration. After reinflation, an average drag coefficient near 0.6 based on nominal surface area was obtained. During descent, an aerodynamic trim angle was observed in a plane near several torn sails. Amplitude of the trim was approximately 15 degrees and oscillation about trim was less than 11 degrees.
Author
Aerodynamic Drag; Atmospheric Entry; Parachute Descent; Aerodynamic Stability; Inflating

20070030997 NASA Langley Research Center, Hampton, VA USA
Performance of a 19.7 Meter Diameter Disk-Gap-Band Parachute in a Simulated Martian Environment
Bendura, Richard J.; Coltrane, Lucille C.; Huckins III, Earle K.; January 1968; In English; See also 19680004328; See also NASA-TM-X-1499; Silent, Color, 150ft., 4.25min.; DVD produced from the original 16mm recording
Report No(s): L-983; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Inflation and drag characteristics of a 64.7-foot (19.7-meter) nominal-diameter disk-gap-band parachute deployed at a Mach number of 1.59 and a dynamic pressure of 11.6 psf (555 newtons per m(exp 2)) were obtained from the second balloon-launched flight test of the Planetary Entry Parachute Program. In addition, parachute stability characteristics during the subsonic descent portion of the test are presented. After deployment, the parachute rapidly inflated to a full condition, partially collapsed, and then reinflated to a stable configuration. After reinflation, an average drag coefficient of about 0.55 based on nominal surface area was obtained. The parachute exhibited good stability characteristics during descent. The only major damage to the parachute during the test was the tearing of two canopy panels; a loss of less than 0.5 percent of nominal surface area resulted.
Author
Aerodynamic Drag; Aerodynamic Coefficients; Atmospheric Entry; Parachutes; Aerodynamic Stability

20070030998 NASA Langley Research Center, Hampton, VA USA
Flight Tests of a 40-Foot Nominal Diameter Modified Ringsail Parachute Deployed at Mach 1.64 and Dynamic Pressure of 9.1 Pounds Per Square Foot
Eckstrom, Clinton V.; Murrow, Harold N.; Preisser, John S.; December 1967; In English; See also 19680002451; See also NASA-TM-X-1484; Silent, Color, 120ft., 3.3min.; DVD produced from the original 16mm recording
Report No(s): L-981; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

A ringsail parachute, which had a nominal diameter of 40 feet (12.2 meters) and reference area of 1256 square feet (117 m(exp 2)) and was modified to provide a total geometric porosity of 15 percent of the reference area, was flight tested as part

of the rocket launch portion of the NASA Planetary Entry Parachute Program. The payload for the flight test was an instrumented capsule from which the test parachute was ejected by a deployment mortar when the system was at a Mach number of 1.64 and a dynamic pressure of 9.1 pounds per square foot (43.6 newtons per m(exp 2)). The parachute deployed to suspension line stretch in 0.45 second with a resulting snatch force of 1620 pounds (7200 newtons). Canopy inflation began 0.07 second later and the parachute projected area increased slowly to a maximum of 20 percent of that expected for full inflation. During this test, the suspension lines twisted, primarily because the partially inflated canopy could not restrict the twisting to the attachment bridle and risers. This twisting of the suspension lines hampered canopy inflation at a time when velocity and dynamic-pressure conditions were more favorable.
Author
Atmospheric Entry; Parachutes; Inflating

20070030999 NASA Langley Research Center, Hampton, VA USA
Flight Test of a 30-Foot Nominal-Diameter Disk-Gap-Band Parachute Deployed at Mach 1.56 and Dynamic Pressure of 11.4 Pounds per Square Foot
Eckstrom, Clinton V.; Preisser, John S.; September 05, 1967; In English; See also 19670026287; See also NASA-TM-X-1451; Silent, Color 100ft., 3min.; DVD produced from the original 16mm recording
Report No(s): L-968; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

A 30-foot (9.1 meter) nominal-diameter disk-gap-band parachute (reference area 707 sq ft (65.7 m(exp 2)) was flight tested with a 200-pound (90.7 kg) instrumented payload as part of the NASA Planetary Entry Parachute Program. A deployment mortar ejected the test parachute when the payload was at a Mach number of 1.56 and a dynamic pressure of 11.4 lb/sq ft (546 newtons per m 2) at an altitude of 127,500 feet (38.86 km). The parachute reached suspension line stretch in 0.37 second resulting in a snatch force loading of 1270 pounds (5650 N). Canopy inflation began 0.10 second after line stretch. A delay in the opening process occurred and was apparently due to a momentary interference of the glass-fiber shroud used in packing the parachute bag in the mortar. Continuous canopy inflation began 0.73 second after initiation of deployment and 0.21 second later full inflation was attained for a total elapsed time from mortar fire of 0.94 second. The maximum opening load of 3915 pounds (17,400 newtons) occurred at the time the canopy was first fully opened. The parachute exhibited an average drag coefficient of 0.52 during the deceleration period and pitch-yaw oscillations of the canopy were less than 5 degrees. During the steady-state descent portion of the test period, the average effective drag coefficient was about 0.47 (based on vertical descent velocity and total system weight).
Author
Parachutes; Aerodynamic Drag; Atmospheric Entry; Inflating; Descent

20070031000 NASA Langley Research Center, Hampton, VA USA
Flight Test of 31.2 Diameter Modified Ringsail Parachute Deployed at Mach 1.39, Dynamic Pressure 11 Pounds per Square Foot
Preisser, John S.; Eckstrom, Clinton V.; Murrow, Harold N.; April 25, 1967; In English; See also 19670022936; See also NASA-TM-X-1414; Silent, Color, 120ft., 3.5min.; DVD produced from the original 16mm recording
Report No(s): L-966; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

A 31.2-foot (9.51 meter) nominal diameter (reference area 764 ft(exp 2) (71.0 m(exp 2)) ringsail parachute modified to provide 15-percent geometric porosity was flight tested while attached to a 201-pound mass (91.2 kilogram) instrumented payload as part of the rocket launch portion of the NASA Planetary Entry Parachute Program (PEPP). The parachute deployment was initiated by the firing of a mortar at a Mach number of 1.39 and a dynamic pressure of 11.0 lb/ft(exp 2) (527 newtons/m(exp 2)) at an altitude of 122,500 feet (37.3 kilometers). The parachute deployed to suspension-line stretch (snatch force) in 0.35 second, and 0.12 second later the drag force increase associated with parachute inflation began. The parachute inflated in 0.24 second to the full-open condition for a total elapsed opening time of 0.71 second. The maximum opening load of 3970 pounds (17,700 newtons) came at the time the parachute was just fully opened. During the deceleration period, the parachute exhibited an average drag coefficient of 0.52 and oscillations of the parachute canopy were less than 5 degrees. During the steady-state terminal descent portion of the test period, the average effective drag coefficient (based on vertical descent velocity) was 0.52.
Author
Atmospheric Entry; Parachutes; Parachute Descent; Aerodynamic Characteristics

20070031003 NASA Langley Research Center, Hampton, VA USA

Performance of 26 Meter Diameter Ringsail Parachute in a Simulated Martian Environment

Whitlock, Charles H.; Bendura, Richard J.; Cotrane, Lucille C.; February 1967; In English; See also 19670009951; See also NASA-TM-X-1356; Silent, Color, 80ft., 2.5min.; DVD produced from the original 16mm recording

Report No(s): L-946; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Inflation, drag, and stability characteristics of an 85.3-foot (26-meter) nominal diameter ringsail parachute deployed at a Mach number of 1.15 and at an altitude of 132,600 feet (40.42 kilometers) were obtained from the first flight test of the Planetary Entry Parachute Program. After deployment, the parachute inflated to the reefed condition. However, the canopy was unstable and produced low drag in the reefed condition. Upon disreefing and opening to full inflation, a slight instability in the canopy mouth was observed initially. After a short time, the fluctuations diminished and a stable configuration was attained. Results indicate a loss in drag during the fluctuation period prior to stable inflation. During descent, stability characteristics of the system were such that the average pitch-yaw angle from the local vertical was less than 10 degrees. Rolling motion between the payload and parachute canopy quickly damped to small amplitude.

Author

Aerodynamic Drag; Parachutes; Atmospheric Entry; Descent; Aerodynamic Stability; Inflating

20070031005 NASA Langley Research Center, Hampton, VA USA

High Altitude Flight Test of a 40-Foot Diameter (12.2 meter) Ringsail Parachute at Deployment Mach Number of 2.95

Eckstrom, Clinton V.; May 1970; In English; See also 19700022313; See also NASA-TN-D-5796; Silent, Color, 115ft., 3.2min

Report No(s): L-1077; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

A 40-foot-nominal-diameter (12.2-meter) modified ringsail parachute was flight tested as part of the NASA Supersonic High Altitude Parachute Experiment (SHAPE) program. The 41-pound (18.6-kg) test parachute system was deployed from a 239.5-pound (108.6-kg) instrumented payload by means of a deployment mortar when the payload was at an altitude of 171,400 feet (52.3 km), a Mach number of 2.95, and a free-stream dynamic pressure of 9.2 lb/sq ft (440 N/m(exp 2)). The parachute deployed properly, suspension line stretch occurring 0.54 second after mortar firing with a resulting snatch-force loading of 932 pounds (4146 newtons). The maximum loading due to parachute opening was 5162 pounds (22 962 newtons) at 1.29 seconds after mortar firing. The first near full inflation of the canopy at 1.25 seconds after mortar firing was followed immediately by a partial collapse and subsequent oscillations of frontal area until the system had decelerated to a Mach number of about 1.5. The parachute then attained a shape that provided full drag area. During the supersonic part of the test, the average axial-force coefficient varied from a minimum of about 0.24 at a Mach number of 2.7 to a maximum of 0.54 at a Mach number of 1.1. During descent under subsonic conditions, the average effective drag coefficient was 0.62 and parachute-payload oscillation angles averaged about &loo with excursions to +/-20 degrees. The recovered parachute was found to have slight damage in the vent area caused by the attached deployment bag and mortar lid.

Author

Aerodynamic Drag; Parachutes; Supersonic Speed; Subsonic Speed

20070031007 NASA Langley Research Center, Hampton, VA USA

High Altitude Flight Test of a Reefed 12.2 Meter Diameter Disk-Gap-Band Parachute with Deployment at Mach Number of 2.58

Grow, R. Bruce; Preisser, John S.; August 1971; In English; See also 19710024550; See also NASA-TN-D-6469; Silent, Color, 180ft., 5min.; DVD produced from the original 16mm recording

Report No(s): L-1106; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

A reefed 12.2-meter nominal-diameter (40-ft) disk-gap-band parachute was flight tested as part of the NASA Supersonic High Altitude Parachute Experiment (SHAPE) program. A three-stage rocket was used to drive the instrumented payload to an altitude of 43.6 km (143,000 ft), a Mach number of 2.58, and a dynamic pressure of 972 N/m(exp 2) (20.3 lb/ft(exp 2)) where the parachute was deployed by means of a mortar. The parachute deployed satisfactorily and reached a partially inflated condition characterized by irregular variations in parachute projected area. A full, stable reefed inflation was achieved when the system had decelerated to a Mach number of about 1.5. The steady, reefed projected area was 49 percent of the steady, unreefed area and the average drag coefficient was 0.30. Disreefing occurred at a Mach number of 0.99 and a dynamic pressure of 81 N/m(exp 2) (1.7 lb/ft(exp 2)). The parachute maintained a steady inflated shape for the remainder of the deceleration

portion of the flight and throughout descent. During descent, the average effective drag coefficient was 0.57. There was little, if any, coning motion, and the amplitude of planar oscillations was generally less than 10 degrees. The film also shows a wind tunnel test of a 1.7-meter-diameter parachute inflating at Mach number 2.0.
Author (revised)
Parachutes; Wind Tunnel Tests; Supersonic Speed; Subsonic Speed; Inflating; Flight Tests; Aerodynamic Drag

20070031009 NASA Langley Research Center, Hampton, VA USA
Flight Test of a 40-Foot Nominal Diameter Disk-Gap-Band Parachute Deployed at a Mach Number of 2.72 and a Dynamic Pressure of 9.7 Pounds per Square Foot
Eckstrom, Clinton V.; Preisser, John S.; November 1968; In English; See also 19680020521; See also NASA-TM-X-1623; Silent, Color, 111ft., 3min.; DVD produced from the original 16mm recording
Report No(s): L-1006; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

A 40-foot-nominal-diameter (12.2 meter) disk-gap-band parachute was flight tested as part of the NASA Supersonic Planetary Entry Decelerator (SPED-I) Program. The test parachute was deployed from an instrumented payload by means of a deployment mortar when the payload was at an altitude of 158,500 feet (48.2 kilometers), a Mach number of 2.72, and a free-stream dynamic pressure of 9.7 pounds per foot(exp 2) (465 newtons per meter(exp 2)). Suspension line stretch occurred 0.46 second after mortar firing and the resulting snatch force loading was -8.lg. The maximum acceleration experienced by the payload due to parachute opening was -27.2g at 0.50 second after the snatch force peak for a total elapsed time from mortar firing of 0.96 second. Canopy-shape variations occurred during the higher Mach number portion of the flight test (M greater than 1.4) and the payload was subjected to large amplitude oscillatory loads. A calculated average nominal axial-force coefficient ranged from about 0.25 immediately after the first canopy opening to about 0.50 as the canopy attained a steady inflated shape. One gore of the test parachute was damaged when the deployment bag with mortar lid passed through it from behind approximately 2 seconds after deployment was initiated. Although the canopy damage caused by the deployment bag penetration had no apparent effect on the functional capability of the test parachute, it may have affected parachute performance since the average effective drag coefficient of 0.48 was 9 percent less than that of a previously tested parachute of the same configuration.
Author
Parachutes; Flight Tests; Supersonic Speed; Loads (Forces); Aerodynamic Characteristics

20070031013 NASA Langley Research Center, Hampton, VA USA
Drag Characteristics of Several Towed Decelerator Models at Mach 3
Miserentino, Robert; Bohon, Herman L.; February 1970; In English; See also 19700017623; See also NASA-TN-D-5750; Silent, Black & White, 70ft., 1.75min.; DVD produced from the original 16mm recording
Report No(s): L-1075; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

An investigation has been made to determine the possibility of using toroid-membrane and wide-angle conical shapes as towed decelerators. Parameter variations were investigated which might render toroid-membrane models and wide-angle-cone models stable without loss of the high drag coefficients obtainable with sting-mounted models. The parameters varied included location of center of gravity, location of the pivot between the towline and the model, and configuration modifications of the aft end as the addition of a corner radius and the addition of a skirt. The toroid membrane can be made into a stable towed decelerator with a suitable configuration modification of the aft end.
Author
Aerodynamic Brakes; Conical Shells; Towed Bodies; Wind Tunnel Tests; Toroids

20090004177 NASA Dryden Flight Research Center, Edwards, CA, USA
Overview of the LaNCETS Flight Experiment and CFD Analysis. Supplemental Movies
Cliatt, Larry J., II; Haering, Edward A., Jr.; Bui, Trong; October 07, 2008; In English; Fundamental Aeronautics 2008 Annual Meeting, 7-9 Oct. 2008, Atlanta, GA, USA; See also 20090002548; No Copyright; Avail: CASI: C01, CD-ROM

This presentation focuses on nearfield airborne pressure signatures from the Lift and Nozzle Change Effect on Tail Shocks (LaNCETS) flight test experiment. The primary motivation for nearfield probing in the supersonic regime is to measure the shock structure of aircraft in an ongoing effort to overcome the overland sonic boom barrier for commercial supersonic

transportation. LaNCETS provides the opportunity to investigate lift distribution and engine plume effects. During Phase 1 flight testing an F-15B was used to probe the F-15 LaNCETS aircraft in order to validate CFD and pre-flight prediction tools. A total of 29 probings were taken at 40,000 ft. altitude at Machs 1.2, 1.4 and 1.6. LaNCETS Phase 1 flight data are presented as a detailed pressure signature superimposed over a picture of the LaNCETS aircraft. The attenuation of the Inlet-Canard shocks with distance as well as its forward propagation and the coalescence of the noseboom shock are illustrated. A detailed CFD study on a simplified LaNCETS aircraft jet nozzle was performed providing the ability to more accurately capture the shocks from the propulsion system and emphasizing how under- and over-expanding the nozzle affects the existence of shock trains inside the jet plume. With Phase 1 being a success preparations are being made to move forward to Phase 2. Phase 2 will fly similar flight conditions, but this time changing the aircraft's lift distribution by biasing the canard positions, and changing the plume shape by under- and over-expanding the nozzle. Nearfield probing will again be completed in the same manner as in Phase 1. An additional presentation focuses on LaNCETS CFD solution methodology. Discussions highlight grid preprocessing, grid shearing and stretching, flow solving and contour plots. Efforts are underway to better capture the flow features via grid modification and flow solution methodology, which will help to achieve better agreement with flight data. An included CD-ROM provides animations of the nearfield probing procedure and of real data from one of the probings integrated with GPS positional and velocity data. An additional in-flight video from the rear seat of the probing aircraft is also provided.
Derived from text
Supersonics; Supersonic Flight; Flight Tests; Sonic Booms; Computational Fluid Dynamics; Force Distribution; Plumes

03
AIR TRANSPORTATION AND SAFETY

Includes passenger and cargo air transport operations; airport ground operations; flight safety and hazards; and aircraft accidents. Systems and hardware specific to ground operations of aircraft and to airport construction are covered in 09 Research and Support Facilities (Air). Air traffic control is covered in 04 Aircraft Communications and Navigation. For related information see also 16 Space Transportation and Safety and 85 Technology Utilization and Surface Transportation.

19940010863 NASA Lewis Research Center, Cleveland, OH, USA
NASA images 6
Jan 1, 1988; In English; 28 min. 30 sec. playing time, in color, with sound
Report No(s): LERC-3002; NASA-TM-109437; NONP-NASA-VT-93-190234; No Copyright; Avail: CASI: C01, DVD

The video is comprised of clips regarding aircraft safety and development through NASA research at its various centers.
CASI
Aircraft Safety; NASA Programs; Research and Development; Research Facilities

19940010953 NASA, Washington, DC, USA
Life saving satellites
Aug 1, 1985; In English; 6 min. 16 sec. playing time, in color, with sound
Report No(s): ASR-238; NASA-TM-109616; NONP-NASA-VT-93-190414; No Copyright; Avail: CASI: C01, DVD

Details of COSPAS/SARSAT, the international search and rescue project, are covered.
CASI
COSPAS; Rescue Operations; SARSAT

19940027297 NASA Lewis Research Center, Cleveland, OH, USA
WHIPICE
JAN 1, 1992; In English; 8 min. 30 sec. playing time, in color, with sound
Report No(s): LERC-92-175; NASA-TM-109749; NONP-NASA-VT-94-9949; No Copyright; Avail: CASI: C01, DVD

This video documents efforts by NASA Lewis Research Center researchers to improve ice protection for aircraft. A new system of deicing aircraft by allowing a thin sheet of ice to develop, then breaking it into particles, is being examined, particularly to determine the extent of shed ice ingestion by jet engines that results. The process is documented by a high speed imaging system that scans the breakup and flow of the ice particles at 1000 frames per second. This data is then digitized and

analyzed using a computer program called WHIPICE, which analyzes grey scale images of the ice particles. Detailed description of the operation of this computer program is provided.
CASI
Aircraft Hazards; Aircraft Icing; Applications Programs (Computers); Deicing; Ice Prevention

19940029057 NASA, Washington, DC, USA
Airline safety and economy
JAN 1, 1993; In English; 6 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-109811; NONP-NASA-VT-94-12939; ASR-263; No Copyright; Avail: CASI: C01, DVD

This video documents efforts at NASA Langley Research Center to improve safety and economy in aircraft. Featured are the cockpit weather information needs computer system, which relays real time weather information to the pilot, and efforts to improve techniques to detect structural flaws and corrosion, such as the thermal bond inspection system.
CASI
Aircraft Maintenance; Aircraft Safety; Aviation Meteorology; Flight Management Systems; Flight Safety; Inspection

19940029243 NASA Lewis Research Center, Cleveland, OH, USA
Crash impact survival in light planes
JAN 1, 1994; In English; 7 min. 45 sec. playing time, in color, with sound
Report No(s): NASA-TM-109799; NONP-NASA-VT-94-12927; No Copyright; Avail: CASI: C01, DVD

This video explains the effects on aircraft and passengers of light plane crashes. The explanation is provided through the use of simulated light planes and dummies.
CASI
Aircraft Accidents; Civil Aviation; Crashes; General Aviation Aircraft; Light Aircraft; Passengers

19950004136 NASA, Washington, DC, USA
The High Speed Research Program
Jun 1, 1993; In English; 1 min. 11 sec. playing time, with sound
Report No(s): NASA-TM-109869; NONP-NASA-VT-94-23140; No Copyright; Avail: CASI: C01, DVD

This video highlights the endeavors of NASA and the USA manufacturers to provide technology that will make air travel to Pacific countries more efficient. This video was shown at the 1993 Paris Airshow.
CASI
Air Transportation; High Speed; Supersonic Transports

04
AIRCRAFT COMMUNICATIONS AND NAVIGATION

Includes all modes of communication with and between aircraft; air navigation systems (satellite and ground based); and air traffic control. For related information see also 06 Avionics and Aircraft Instrumentation; 17 Space Communications, Spacecraft Communications, Command and Tracking; and 32 Communications and Radar.

19950011932 NASA Ames Research Center, Moffett Field, CA, USA
VSTOL Systems Research Aircraft (VSRA) Harrier
Dec 1, 1994; In English; 9 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110117; NONP-NASA-VT-95-37002; No Copyright; Avail: CASI: C01, DVD

NASA's Ames Research Center has developed and is testing a new integrated flight and propulsion control system that will help pilots land aircraft in adverse weather conditions and in small confined ares (such as, on a small ship or flight deck). The system is being tested in the V/STOL (Vertical/Short Takeoff and Landing) Systems research Aircraft (VSRA), which is a modified version of the U.S. Marine Corps's AV-8B Harrier jet fighter, which can take off and land vertically. The new automated flight control system features both head-up and panel-mounted computer displays and also automatically integrates control of the aircraft's thrust and thrust vector control, thereby reducing the pilot's workload and help stabilize the aircraft

for landing. Visiting pilots will be encouraged to test the new system and provide formal evaluation flights data and feedback. An actual flight test and the display panel of control system are shown in this video.
CASI
Automatic Control; Flight Control; Harrier Aircraft; Head-Up Displays; Research Aircraft; Thrust Vector Control; V/STOL Aircraft; Vertical Landing; Vertical Takeoff

05
AIRCRAFT DESIGN, TESTING AND PERFORMANCE

Includes all stages of design of aircraft and aircraft structures and systems. Also includes aircraft testing, performance and evaluation, and aircraft and flight simulation technology. For related information see also 18 Spacecraft Design, Testing and Performance and 39 Structural Mechanics. For land transportation vehicles see 85 Technology Utilization and Surface Transportation.

19940009133 NASA Ames Research Center, Moffett Field, CA, USA
Airborne Arctic stratospheric expedition: Ozone
Dec 1, 1988; In English; 5 min. playing time, in color, with sound
Report No(s): AAV-1239; NASA-TM-109312; NONP-NASA-VT-93-185319; No Copyright; Avail: CASI: C01, DVD

This video shows the rollout of the ER-2 and DC-8 at Ames, takeoffs and landings, and operations aboard the DC-8 and ER-2 in Puntas Arenas, Chile. Animation of the north polar regions showing the ozone hole is also included.
Author (revised)
Arctic Regions; Expeditions; Ozone Depletion; Stratosphere

19940010848 NASA, Washington, DC, USA
Mission adaptive wing
Oct 1, 1986; In English; 3 min. 7 sec. playing time, in color, with sound
Report No(s): ASR-241; NASA-TM-109448; NONP-NASA-VT-93-190245; No Copyright; Avail: CASI: C01, DVD

This document looks at an aircraft wing that can change shape in flights from a flat to curved surface according to the necessary flight mode.
CASI
Mission Adaptive Wings; Wing Camber; Wing Profiles

19940010850 NASA, Washington, DC, USA
National Aero-Space Plane
Jul 1, 1990; In English; 3 min. 3 sec. playing time, in color, with sound
Report No(s): ASR-253; NASA-TM-109450; NONP-NASA-VT-93-190247; No Copyright; Avail: CASI: C01, DVD

This document presents updated model photography of ‘old’ NASP design.
CASI
Aircraft Models; National Aerospace Plane Program; Photography

19940010851 NASA, Washington, DC, USA
National Aero-Space Plane resource reel
Aug 1, 1991; In English; 22 min. playing time, in color, with sound
Report No(s): NASA-TM-109451; NONP-NASA-VT-93-190248; No Copyright; Avail: CASI: C01, DVD

This document presents a series of takes and sequences of model photography of the 1991 NASP design.
CASI
Aircraft Models; National Aerospace Plane Program; Photography

19940010854 NASA, Washington, DC, USA
X-29: Experiment in flight
Jan 1, 1991; In English; 2 min. 51 sec. playing time, in color, with sound
Report No(s): ASR-255; NASA-TM-109454; NONP-NASA-VT-93-190251; No Copyright; Avail: CASI: C01, DVD

This document examines the goals and accomplishments of the forward sweep-winged X-29.

CASI

Flight Tests; Swept Forward Wings; X-29 Aircraft

19940010855 NASA, Washington, DC, USA
XV-15: Tiltrotor
Jan 1, 1991; In English; 2 min. 35 sec. playing time, in color, with sound
Report No(s): ASR-236; NASA-TM-109455; NONP-NASA-VT-93-190252; No Copyright; Avail: CASI: C01, DVD

This document explains the technology of the XV-15 aircraft that takes off and lands like a helicopter and flies like a jet.

CASI

Tilt Rotor Aircraft; Tilt Rotor Research Aircraft Program; Tilting Rotors; XV-15 Aircraft

19940010923 NASA, Washington, DC, USA
Better way to fly
Feb 1, 1988; In English; 3 min. 31 sec. playing time, in color, with sound
Report No(s): ASR-246; NASA-TM-109447; NONP-NASA-VT-93-190244; No Copyright; Avail: CASI: C01, DVD

This document shows the advanced cockpit making piloting more efficient and flying safer.

CASI

Cockpits; Flight Control; Flight Instruments

19940014489 NASA, Washington, DC, USA
X-29: Research aircraft
Jan 1, 1991; In English; 2 min. 35 sec. playing time, in color, with sound
Report No(s): ASR-237; NASA-TM-109370; NONP-NASA-VT-94-198217; No Copyright; Avail: CASI: C01, DVD

A preliminary look at the Ames Dryden Flight Research Center in the context of the X-29 aircraft is provided. The uses of the X-29's 30 deg forward swept wing are examined. The video highlights the historical development of the forward swept wing, and its unique blend of speed, agility, and slow flight potential. The central optimization of the wing, the forward canard, and the rear flaps by an onboard flight computer is also described.

CASI

Airborne/Spaceborne Computers; Flight Control; Histories; Research Aircraft; Swept Forward Wings; X-29 Aircraft

19940029059 NASA, Washington, DC, USA
Perseus: Global watcher
JAN 1, 1993; In English; 7 min. playing time, in color, with sound
Report No(s): NASA-TM-109813; NONP-NASA-VT-94-12941; ASR-265; No Copyright; Avail: CASI: C01, DVD

This video documents efforts of NASA Dryden Flight Research Center to develop and utilize ultra-light, remotely piloted gliders to study Earth's atmosphere. The advantage of these vehicles is that they are inexpensive, and can fly at altitudes twice that of commercial airlines.

CASI

Aircraft Design; Earth Atmosphere; Environmental Monitoring; Gliders; Light Aircraft; Remote Control

19940029284 NASA Lewis Research Center, Cleveland, OH, USA
STOVL
Jan 1, 1990; In English; 4 min. 43 sec. playing time, in color, with sound
Report No(s): LERC-4003; NASA-TM-109845; REPT-4003; NONP-NASA-VT-94-13535; No Copyright; Avail: CASI: C01, DVD

This video examines research and applications of the STOVL aircraft.

CASI
Lift Augmentation; Powered Lift Aircraft; STOVL Aircraft

19950004303 NASA Dryden Flight Research Center, Edwards, CA, USA
Research excitation system flight testing
Mar 30, 1992; In English; 2 min. 35 sec. playing time, in color, with sound
Report No(s): NASA-TM-104289; NONP-NASA-VT-94-23635; No Copyright; Avail: CASI: C01, DVD

Excitation system research at Dryden with an F-16XL aircraft is presented.

DFRC
Excitation; F-16 Aircraft; Flight Tests; Research Aircraft

19950004304 NASA Dryden Flight Research Center, Edwards, CA, USA
NASA and the SR-71: Back to the future
Sep 9, 1991; In English; 4 min. 41 sec. playing time, in color, with sound
Report No(s): NASA-TM-104290; NONP-NASA-VT-94-23636; No Copyright; Avail: CASI: C01, DVD

Presented is a musical video salute to NASA's delivery of three SR-71 aircraft for use in flight research.

DFRC
Flight Tests; SR-71 Aircraft

19950004328 NASA Dryden Flight Research Center, Edwards, CA, USA
HL-10 dedication ceremony
Apr 3, 1990; In English; 30 min. 35 sec. playing time, in color, with sound
Report No(s): NASA-TM-104295; NONP-NASA-VT-94-23640; No Copyright; Avail: CASI: C01, DVD

The dedication of NASA's HL-10 lifting body, being put on display at NASA Dryden Flight Research Center, is shown.

DFRC
HL-10 Reentry Vehicle; Lifting Bodies

19950004329 NASA Dryden Flight Research Center, Edwards, CA, USA
F-104 resource tape
Oct 9, 1992; In English; 34 min. playing time, in color, with sound
Report No(s): NASA-TM-104296; NONP-NASA-VT-94-23641; No Copyright; Avail: CASI: C01, DVD

This video presents raw, unedited material of Dryden's F-104 aircraft.

DFRC
F-104 Aircraft; Research Aircraft

19950004330 NASA Dryden Flight Research Center, Edwards, CA, USA
F-15 835 (HIDEC) resource tape
Feb 1, 1993; In English; 1 hr. 29 min. 59 sec. playing time, in color, with sound
Report No(s): NASA-TM-104297; NONP-NASA-VT-94-23642; No Copyright; Avail: CASI: C01, DVD

This video presents raw, unedited material of Dryden's F-15 Highly Integrated Digital Electronic Control (HIDEC) aircraft.

DFRC
F-15 Aircraft; Flight Control; Research Aircraft

19950004331 NASA Dryden Flight Research Center, Edwards, CA, USA
F-16XL resource tape
Jan 28, 1993; In English; 1 hr. 6 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-104298; NONP-NASA-VT-94-23643; No Copyright; Avail: CASI: C01, DVD

This video presents raw, unedited material of Dryden's F-16XL aircraft.

DFRC

F-16 Aircraft; Research Aircraft

19950004332 NASA Dryden Flight Research Center, Edwards, CA, USA
F-18 high alpha research vehicle resource tape
Aug 11, 1992; In English; 1 hr. 29 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-104299; NONP-NASA-VT-94-23644; No Copyright; Avail: CASI: C01, DVD

This video presents raw, unedited material of Dryden's F-18 High Alpha Research Vehicle (HARV) aircraft.

DFRC

F-18 Aircraft; Research Vehicles

19950004333 NASA Dryden Flight Research Center, Edwards, CA, USA
X-31 resource tape
Aug 23, 1993; In English; 1 hr. 33 min. playing time, in color, with sound
Report No(s): NASA-TM-104300; NONP-NASA-VT-94-23645; No Copyright; Avail: CASI: C01, DVD

This video presents raw, unedited material of Dryden's X-31 aircraft.

DFRC

Research Aircraft; X-31 Aircraft

19950004339 NASA Dryden Flight Research Center, Edwards, CA, USA
X-31 tailless testing
Sep 9, 1994; In English; 3 min. 20 sec. playing time, in color, with sound
Report No(s): NASA-TM-104306; NONP-NASA-VT-94-23651; No Copyright; Avail: CASI: C01, DVD

This video addresses the NASA Dryden and X-31 International Test Organization (ITO) testbed provided for the Pentagon's 'tailless' and quasi-tailless vehicle configuration testing.

DFRC

Aircraft Configurations; Test Ranges; X-31 Aircraft

19950010567 NASA, Washington, DC, USA
Revitalizing general aviation
Jul 20, 1994; In English; 6 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110113; NASA-ASR-268; NONP-NASA-VT-95-35013; No Copyright; Avail: CASI: C01, DVD

This video contains a short feature of NASA and the FAA joint effort to incorporate new technology into the design of general aviation aircraft.

CASI

Aerospace Technology Transfer; General Aviation Aircraft; Technology Utilization

19950013578 NASA Dryden Flight Research Center, Edwards, CA, USA
F-15 resource tape
JAN 1, 1994; In English; 9 min. 25 sec. playing time, in color, with sound
Report No(s): NASA-TM-110502; NONP-NASA-VT-95-41114; No Copyright; Avail: CASI: C01, DVD

An F-15 fighter aircraft is portrayed in resource video. A flight test is shown with take-off, touch and go landings, some flight maneuvers, and pilot to control tower communication with references to drag vectors.

CASI

Aircraft Landing; Aircraft Maneuvers; Aircraft Performance; F-15 Aircraft; Flight Tests; Takeoff; Touchdown

19950013739 NASA Dryden Flight Research Center, Edwards, CA, USA
Acoustic climb to cruise test
Nov 27, 1991; In English; 9 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110504; NONP-NASA-VT-95-41116; No Copyright; Avail: CASI: C01, DVD

Flight test film footage of three different aircraft testing the acoustical noise levels during take-off, climb, maneuvers, and touch and go landings are described. These sound tests were conducted on two fighter aircraft and one cargo aircraft. Results from mobile test vehicle are shown.

DFRC

Acoustics; Aircraft Noise; Climbing Flight; Flight Tests; Noise Intensity

20000033438 NASA Dryden Flight Research Center, Edwards, CA USA
Hyper-X Model Testing with Animation
Mar. 21, 1996; In English; 6 min. 25 sec. playing time, in color, with partial sound
Report No(s): NONP-NASA-VT-2000043976; No Copyright; Avail: CASI: C01, DVD

Live footage shows the Hyper-X program modeling at NASA Langley Research Center. The Hyper-X craft is shown on top of a Pegasus booster in a 20’ Mach 6 Wind Tunnel. Visualization data runs are performed in the wind tunnel. Also seen is a brief interview with Vincent Rausch the Hyper-X Program Manager. Animation includes the flight model of the Hyper-X vehicle.

CASI

Hypersonic Flight; X-43 Vehicle; Pegasus Air-Launched Booster; Air Launching

07
AIRCRAFT PROPULSION AND POWER

Includes primary propulsion systems and related systems and components, e.g., gas turbine engines, compressors, and fuel systems; and onboard auxiliary power plants for aircraft. For related information see also 20 Spacecraft Propulsion and Power; 28 Propellants and Fuels; and 44 Energy Production and Conversion.

19940009135 NASA Ames Research Center, Moffett Field, CA, USA
Rotor stator CGI
Apr 1, 1988; In English; 5 min. playing time, in color, with sound
Report No(s): AAV-1203; NASA-TM-109313; NONP-NASA-VT-93-185320; No Copyright; Avail: CASI: C01, DVD

This video contains computer graphics of numerous kinds of flow within jet engines. Analyses include pressure contours (shock waves), fluid pressures, etc. The video also contains dramatic views of jet engine manufacturing.

Author (revised)

Computer Graphics; Computerized Simulation; Flow Distribution; Jet Engines; Numerical Flow Visualization; Rotor Stator Interactions; Rotors; Stators

19940009150 NASA Lewis Research Center, Cleveland, OH, USA
Futurepath 2
Apr 1, 1989; In English; 28 min. 48 sec. playing time, in color, with sound
Report No(s): LERC-3049; NASA-TM-109285; NONP-NASA-VT-93-185301; No Copyright; Avail: CASI: C01, DVD

This covers advanced turboprop tests, the diesel engine as an aircraft propulsion system in helicopters, and the development of the Stirling engine as a space power system.

Author

Aircraft Engines; Diesel Engines; Spacecraft Power Supplies; Stirling Engines; Turboprop Engines

19940010865 NASA Lewis Research Center, Cleveland, OH, USA
Futurepath 1
Apr 1, 1988; In English; 8 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-109439; NONP-NASA-VT-93-190236; No Copyright; Avail: CASI: C01, DVD

The video presents material concerning Advanced Turboprop programs. Additionally, material covering the development of power systems for Freedom is shown.
CASI
Space Station Freedom; Space Station Power Supplies; Turboprop Engines

19940010871 NASA, Washington, DC, USA
Back to propellers
Jun 1, 1987; In English; 2 min. 50 sec. playing time, in color, with sound
Report No(s): ASR-244; NASA-TM-109445; NONP-NASA-VT-93-190242; No Copyright; Avail: CASI: C01, DVD

The video shows the unique propfan design. The propfan is designed to achieve the speeds and altitudes of jets while only using half the normal amount of fuel.
CASI
Civil Aviation; NASA Programs; Prop-Fan Technology; Propeller Fans; Research and Development

08
AIRCRAFT STABILITY AND CONTROL

Includes flight dynamics, aircraft handling qualities, piloting, flight controls, and autopilots. For related information see also 05 Aircraft Design, Testing and Performance; and 06 Avionics and Aircraft Instrumentation.

19940010806 NASA Johnson Space Center, Houston, TX, USA
STS-26 STA training (Hauck)
May 1, 1988; In English; 3 min. 50 sec. playing time, in color, with sound
Report No(s): JSC-1058; NASA-TM-109555; NONP-NASA-VT-93-190353; No Copyright; Avail: CASI: C01, DVD

This video shows astronaut Rick Hauck at the Shuttle Training Aircraft (STA), CU's of the heads-up display, and air-to-air exercises.
CASI
Astronaut Training; Head-Up Displays; Training Aircraft

19950004305 NASA Dryden Flight Research Center, Edwards, CA, USA
Radio controlled for research
Jul 1, 1994; In English; 3 min. 43 sec. playing time, in color, with sound
Report No(s): NASA-TM-104292; NONP-NASA-VT-94-23637; No Copyright; Avail: CASI: C01, DVD

This video presents how Dryden engineers use radio-controlled aircraft such as the 1/8-scale model F-18 High Alpha Research Vehicle (HARV) featured to conduct flight research.
DFRC
Aircraft Models; Flight Tests; Radio Control; Research Aircraft; Scale Models

19950004336 NASA Dryden Flight Research Center, Edwards, CA, USA
F-15 Propulsion Controlled Aircraft (PCA)
Jul 1, 1993; In English; 2 min. playing time, in color, with sound
Report No(s): NASA-TM-104303; NONP-NASA-VT-94-23648; No Copyright; Avail: CASI: C01, DVD

This video presentation is a news release highlighting the F-15 Highly Integrated Digital Electronic Controls (HIDEC) Propulsion Controlled Aircraft (PCA) software through June 1993 at Dryden.
DFRC
Aircraft Control; Computer Programs; F-15 Aircraft; Flight Control

20090022141 NASA Dryden Flight Research Center, Edwards, CA, USA
Intelligent Flight Control System and Aeronautics Research at NASA Dryden
Brown, Nelson A.; April 30, 2009; In English; See also 20090021683; See also 2009019776
Report No(s): DFRC-992; No Copyright; Avail: CASI: C01, DVD

This video presentation reviews the F-15 Intelligent Flight Control System and contains clips of flight tests and aircraft

performance in the areas of target tracking, takeoff and differential stabilators. Video of the APG milestone flight 1g formation is included.
CASI
F-15 Aircraft; Autonomy; Flight Control; Aircraft Control; Aeronautical Engineering

09
RESEARCH AND SUPPORT FACILITIES (AIR)

Includes airports, runways, hangars, and aircraft repair and overhaul facilities; wind tunnels, water tunnels, and shock tubes; flight simulators; and aircraft engine test stands. Also includes airport ground equipment and systems. For airport ground operations see *03 Air Transportation and Safety*. For astronautical facilities see *14 Ground Support Systems and Facilities (Space)*.

19940010852 NASA, Washington, DC, USA
Rotorcraft research
Jun 1, 1986; In English; 2 min. 40 sec. playing time, in color, with sound
Report No(s): ASR-240; NASA-TM-109452; NONP-NASA-VT-93-190249; No Copyright; Avail: CASI: C01, DVD

This document describes wind tunnel testing and computer modeling done on the rotorcraft prior to building the final aircraft.
CASI
Computerized Simulation; Rotary Wing Aircraft; Wind Tunnel Tests

19940014480 NASA Marshall Space Flight Center, Huntsville, AL, USA
Technology test bed
Aug 1, 1988; In English; 1 min. 30 sec. playing time, in color, with sound
Report No(s): MSFC-13306; NASA-TM-109354; NONP-NASA-VT-94-198201; No Copyright; Avail: CASI: C01, DVD

This video details the renewed use of the massive rocket propulsion test stand at Marshall Space Flight Center, first used to test Saturn 5 rockets during the Apollo Program. The test stand can incorporate over 600 sensors during test firings of the Space Shuttle's main engines, which will result in increased safety and reliability, and reduced production costs.
CASI
Engine Tests; Performance Tests; Propulsion System Performance; Saturn 5 Launch Vehicles; Space Shuttle Main Engine; Spacecraft Propulsion; Test Firing; Test Stands

19940014490 NASA, Washington, DC, USA
The world's largest wind tunnel
Oct 1, 1987; In English; 2 min. 47 sec. playing time, in color, with sound
Report No(s): ASR-245; NASA-TM-109371; NONP-NASA-VT-94-198218; No Copyright; Avail: CASI: C01, DVD

NASA's National Full Scale Aerodynamics Complex, which houses two of the world's largest wind tunnels and has been used for testing experimental aircraft since 1944, is presented. This video highlights the structure and instrumentation of the 40 x 80 foot and 80 x 120 foot wind tunnels and documents their use in testing full scale aircraft, NASA's Space Shuttle and the XV-15 Tiltrotor aircraft.
CASI
Aerodynamics; Research Aircraft; Research Facilities; Wind Tunnel Tests; Wind Tunnels

19940029064 NASA Stennis Space Center, Stennis Space Center, MS, USA
High Heat Flux Facility
JAN 1, 1993; In English; 4 min. 50 sec. playing time, in color, with sound
Report No(s): NASA-TM-109834; NONP-NASA-VT-94-12962; No Copyright; Avail: CASI: C01, DVD

This video gives an overview of the High Heat Flux Facility being built at Stennis Space Center in conjunction with Wright-Patterson Air Force Base. This facility will simulate flight heat conditions and will be used to test engine and materials for the National Aerospace Plane.
CASI
Flight Conditions; Heat Flux; National Aerospace Plane Program; Test Facilities

19940029245 NASA Lewis Research Center, Cleveland, OH, USA
Icing research tunnel
Jan 1, 1990; In English; 7 min. 39 sec. playing time, in color, with sound
Report No(s): LERC-4001; NASA-TM-109844; NONP-NASA-VT-94-13534; No Copyright; Avail: CASI: C01, DVD

This video gives the history of the Icing Research Tunnel at LeRC and how it is used today to understand and protect against icing.

CASI
Aircraft Icing; Ice Prevention; Wind Tunnels

19950004135 NASA Langley Research Center, Hampton, VA, USA
Langley overview
Feb 10, 1993; In English; 6 min. 31 sec. playing time
Report No(s): NASA-TM-109891; NONP-NASA-VT-94-23139; No Copyright; Avail: CASI: C01, DVD

This video presents a brief history of the Langley Research Center.

LaRC
Histories; NASA Programs; Research Facilities

19950004140 NASA, Washington, DC, USA
The model builders
Dec 1, 1991; In English; 2 min. 52 sec. playing time, with sound
Report No(s): NASA-TM-109902; NONP-NASA-VT-94-23144; ASR-258; No Copyright; Avail: CASI: C01, DVD

This video explores the world of modeling at the NASA Johnson Space Center. Artisans create models, large and small, to help scientists and engineers make final design modifications before building more costly prototypes.

CASI
Scale Models; Spacecraft Design; Spacecraft Models

19950004298 NASA Dryden Flight Research Center, Edwards, CA, USA
Dryden overview for schools
Feb 28, 1992; In English; 6 min. 22 sec. playing time, in color, with sound
Report No(s): NASA-TM-104282; NONP-NASA-VT-94-23630; No Copyright; Avail: CASI: C01, DVD

This video provides educators an overview of Dryden for students from late elementary through high school.

DFRC
Education; General Overviews; NASA Programs; Research Facilities

19950004302 NASA Dryden Flight Research Center, Edwards, CA, USA
Dryden tour tape, 1994
Feb 1, 1994; In English; 19 min. 3 sec. playing time, in color, with sound
Report No(s): NASA-TM-104288; NONP-NASA-VT-94-23634; No Copyright; Avail: CASI: C01, DVD

This video provides an overview of NASA's Dryden Flight Research Center. This is the program shown to visitors during the tour at Dryden.

DFRC
General Overviews; NASA Programs; Research Facilities

19950004326 NASA Dryden Flight Research Center, Edwards, CA, USA
Building the Integrated Test Facility: A foundation for the future
Oct 1, 1992; In English; 14 min. 7 sec. playing time, in color, with sound
Report No(s): NASA-TM-104280; NONP-NASA-VT-94-23628; No Copyright; Avail: CASI: C01, DVD

A look at the construction and resources of Dryden's Integrated Test Facility is given.

DFRC
NASA Programs; Test Facilities

19950004334 NASA Dryden Flight Research Center, Edwards, CA, USA
The Western Aeronautical Test Range
Aug 1, 1988; In English; 32 min. 15 sec. playing time, in color, with sound
Report No(s): NASA-TM-104301; NONP-NASA-VT-94-23646; No Copyright; Avail: CASI: C01, DVD

An overview of the Western Aeronautical Test Range (WATR) and its connection to NASA Dryden is presented.
DFRC
Test Facilities; Test Ranges

19950004335 NASA Dryden Flight Research Center, Edwards, CA, USA
Dryden overview for schools
Feb 3, 1994; In English; 6 min. 15 sec. playing time, in color, with sound
Report No(s): NASA-TM-104302; NONP-NASA-VT-94-23647; No Copyright; Avail: CASI: C01, DVD

This video presentation gives a narrated, quick look at the Dryden Flight Research Center and the Center's various projects. The presentation is directed toward a 6th-grade audience and emphasizes staying in school to learn the vital skills needed to succeed today.
DFRC
Education; Research Facilities

12
ASTRONAUTICS (GENERAL)

Includes general research topics related to space flight and manned and unmanned space vehicles, platforms or objects launched into, or assembled in, outer space; and related components and equipment. Also includes manufacturing and maintenance of such vehicles or platforms. For specific topics in astronautics see *categories 13 through 20*. For extraterrestrial exploration see *91 Lunar and Planetary Science and Exploration*.

19940009158 NASA Johnson Space Center, Houston, TX, USA
STS-32 mission highlights resource tape
Mar 1, 1990; In English; 55 min. playing time, in color, with sound
Report No(s): JSC-1146; NASA-TM-109291; NONP-NASA-VT-93-185306; No Copyright; Avail: CASI: C01, DVD

Important visual events including launch, Syncom 4 deployment, LDEF retrieval, onboard crew activities, and landing are presented. Air-to-ground transmission between the crew and Mission Control is also included.
Author (revised)
Long Duration Exposure Facility; Orbital Rendezvous; Space Shuttle Missions; Space Transportation System Flights; Spacecraft Launching; Spacecraft Recovery; Syncom 4 Satellite

19940009167 NASA Johnson Space Center, Houston, TX, USA
STS-28 crew presentation clip
Sep 1, 1989; In English; 23 min. 58 sec. playing time, in color, with sound
Report No(s): JSC-CL-1235; NASA-TM-109298; NONP-NASA-VT-93-185313; No Copyright; Avail: CASI: C01, DVD

This Department of Defense space shuttle mission is shown during launch and landing. The video also includes scenes of the following: the crew working on the otolith Tilt Translation Reinterpretation Experiment, various views of the Earth, the crew during mealtime, and preparations for reentry.
Author (revised)
Defense Program; Space Transportation System Flights; Spacecraft Launching

19940010835 NASA Goddard Space Flight Center, Greenbelt, MD, USA
GAS highlights, 1988
Feb 1, 1989; In English; 30 min. playing time, in color, with sound
Report No(s): GSFC-S-29; NASA-TM-109600; NONP-NASA-VT-93-190398; No Copyright; Avail: CASI: C01, DVD

The video shows highlights of GSFC's involvement in the Get Away Special program during the 1988 calendar year.
CASI
Get Away Specials (STS); NASA Programs; Space Shuttles; Spaceborne Experiments

19940010996 NASA Johnson Space Center, Houston, TX, USA
STS-26 crew participation in meetings
Aug 1, 1988; In English; 13 min. playing time, in color, with sound
Report No(s): JSC-1063; NASA-TM-109519; NONP-NASA-VT-93-190316; No Copyright; Avail: CASI: C01, DVD

This video shows the crew attending and participating in a Payloads Operation Working Group (POWG) meeting, a Flight Rules meeting, and a Flight Operation Review (FOR) meeting.
CASI
Flight Operations; Flight Rules; Mission Planning; Space Transportation System Flights; Spacecrews

19940010998 NASA Johnson Space Center, Houston, TX, USA
Mars rover sample return mission
Sep 1, 1988; In English; 5 min. playing time, in color, with sound
Report No(s): JSC-1026; NASA-TM-109521; NONP-NASA-VT-93-190318; No Copyright; Avail: CASI: C01, DVD

This video was created by NASA JSC's Missions Planning Division to depict a future unmanned Mars mission.
CASI
Mars Sample Return Missions; Mission Planning; NASA Space Programs

19940011027 NASA Lewis Research Center, Cleveland, OH, USA
Astronauts number 2
Sep 1, 1988; In English; 29 min. playing time, in color, with sound
Report No(s): LERC-3035; NASA-TM-109429; NONP-NASA-VT-93-190226; No Copyright; Avail: CASI: C01, DVD

The story of Alan Shepard's May 1961 suborbital flight is presented. This is a re-release of 'The Flight of Freedom 7'.
CASI
Mercury Spacecraft; Suborbital Flight

19940011028 NASA Lewis Research Center, Cleveland, OH, USA
Astronauts number 3
Sep 1, 1988; In English; 28 min. 30 sec. playing time, in color, with sound
Report No(s): LERC-3036; NASA-TM-109430; NONP-NASA-VT-93-190227; No Copyright; Avail: CASI: C01, DVD

John Glenn's flight into space is reviewed. This is a re-release of 'The Flight of Friendship 7'.
CASI
Astronauts; Friendship 7; Mercury MA-6 Flight

19940014506 NASA, Washington, DC, USA
Apollo 11: 20th anniversary
Jul 1, 1989; In English; 3 min. 27 sec. playing time, in color, with sound
Report No(s): ASR-250; NASA-TM-109364; NONP-NASA-VT-94-198211; No Copyright; Avail: CASI: C01, DVD

The Apollo 11 Mission which culminated in the first manned lunar landing on July 20, 1969 is recounted. Historical footage of preparation, takeoff, stage separation, the Eagle Lunar Lander, and the moon walk accompany astronauts Michael Collins, Buzz Aldrin, and Neil Armstrong giving their recollections of the mission are shown.
CASI
Astronauts; Histories; Lunar Landing; Apollo 11 Flight

19940014508 NASA, Washington, DC, USA
Space exploration initiative
Jul 1, 1990; In English; 3 min. 17 sec. playing time, in color, with sound
Report No(s): ASR-253; NASA-TM-109366; NONP-NASA-VT-94-198213; No Copyright; Avail: CASI: C01, DVD

An overview of President Bush's Space Exploration Initiative (SEI) and it's three main components, Space Station Freedom, a Permanent Lunar Base, and a Manned Mission to Mars is provided. Computer simulations of the Space Station Freedom and Permanent Lunar Base are shown, and an animated sequence describes a Mars mission where heavy lift vehicle will bring components of a Mars Spacecraft into orbit, where it will be put together by astronauts using a robotic arm. The

Mars spacecraft is shown orbiting Mars and discharging a lander to the surface, carrying human explorers. The video also details the SEI's Outreach Program, designed to garner interest in and ideas for Space Exploration.
CASI
Lunar Bases; Manned Mars Missions; Space Exploration; Space Station Freedom

19940027314 NASA, Washington, DC, USA
Apollo 11 highlights
JAN 1, 1969; In English; 26 min. 37 sec. playing time, in color, with sound
Report No(s): NASA-TM-109763; NONP-NASA-VT-94-9963; No Copyright; Avail: CASI: C01, DVD

This video recounts the Apollo 11 Mission which took ten years of preparation and the work of over a half a million people, culminating in the first manned lunar landing on July 20, 1969. Historical footage is accompanied by a narrated account of the mission. The footage includes preparation for launch, takeoff, stage separation, docking in space the Eagle Lunar Lander, shots of the Earth and Moon from space, Michael Collins orbiting the Moon in the Columbia Orbiter, Edwin Aldrin and Neil Armstrong walking on the Moon, setting up a Solar Wind experiment, collecting lunar samples, shots aboard the U.S.S. Hornet, retrieval of the astronauts after splashdown, and the parade given in honor of the astronauts.
CASI
Apollo 11 Flight; Lunar Exploration; Lunar Landing; Moon

19940029060 NASA Goddard Space Flight Center, Greenbelt, MD, USA
Apollo 11: The Goddard connection
Jul 1, 1989; In English; 15 min. playing time, in color, with sound
Report No(s): JSC-T-04; NASA-TM-109815; NONP-NASA-VT-94-12943; No Copyright; Avail: CASI: C01, DVD

The history of NASA Goddard Space Flight Center's involvement in the Apollo 11 Mission to the Moon is recounted. Goddard maintained the Manned Space Flight Network, composed of ground tracking stations, and tracking stations aboard ships and airplanes, which maintained communications between the orbiter and Earth.
CASI
Apollo Project; Histories; Manned Space Flight Network; Moon; Spacecraft Communication; Spacecraft Tracking

19940029068 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA
Ulysses: A solar odyssey
Jul 23, 1990; In English; 11 min. 33 sec. playing time, in color, with sound
Report No(s): JPL-AVC-146-90; NASA-TM-109820; NONP-NASA-VT-94-12948; No Copyright; Avail: CASI: C01, DVD

This is a film to film transfer of a Media Four production by Charles Finance about the Ulysses Mission to the Sun. The prelaunch production uses graphics, animation, and live footage to describe how Ulysses will use the gravity of Jupiter to lift it out of the ecliptic plane into polar orbit around the Sun.
CASI
Orbital Maneuvers; Polar Orbits; Solar Orbits; Space Exploration; Sun; Ulysses Mission

19940029070 NASA Lewis Research Center, Cleveland, OH, USA
Astronauts number 3, part 2
Sep 1, 1988; In English; 28 min. 54 sec. playing time, in color, with sound
Report No(s): LERC-3037; NASA-TM-109822; NONP-NASA-VT-94-12950; No Copyright; Avail: CASI: C01, DVD

This video reviews John Glenn's flight into space. It is a re-release of 'The Flight of Friendship 7'.
CASI
Astronauts; Friendship 7; Mercury MA-6 Flight

19940029071 NASA Lewis Research Center, Cleveland, OH, USA
NASA images 14
May 10, 1988; In English; 29 min. playing time, in color, with sound
Report No(s): LERC-3011; NASA-TM-109823; NONP-NASA-VT-94-12951; No Copyright; Avail: CASI: C01, DVD

This video looks at the Apollo 15 mission to the Appenine Mountains.

CASI

Apollo Project; Apollo 15 Flight; Lunar Exploration

19940029072 NASA Lewis Research Center, Cleveland, OH, USA
NASA images 15
May 13, 1988; In English; 27 min. 44 sec. playing time, in color, with sound
Report No(s): LERC-3011; NASA-TM-109824; NONP-NASA-VT-94-12952; No Copyright; Avail: CASI: C01, DVD

This video covers the Apollo 16 mission to the Decartes region.

CASI

Apollo Project; Apollo 16 Flight

19940031004 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA
Magellan to Venus
Jul 1, 1990; In English; 3 min. 35 sec. playing time, in color, with sound
Report No(s): NASA-CR-195779; NONP-NASA-VT-94-15918; No Copyright; Avail: CASI: C01, DVD

This video presents cell animation of the Magellan approach to Venus, orbit insertion, and mapping sequence.

CASI

Magellan Spacecraft (NASA); Space Exploration; Venus (Planet)

19940031005 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA
Planetary Rover Program
Jul 1, 1990; In English; 10 min. playing time, in color, with sound
Report No(s): JPL-AVC-138-90; NASA-CR-196108; NONP-NASA-VT-94-15919; No Copyright; Avail: CASI: C01, DVD

This video presentation explains the Planetary Rover Program and shows testing in the Arroyo near JPL.

CASI

NASA Space Programs; Roving Vehicles

19950004107 NASA Lewis Research Center, Cleveland, OH, USA
NASA images 9 no. 3005
Feb 1, 1988; In English; 27 min. playing time, in color, with sound
Report No(s): LERC-3005; NASA-TM-109933; NONP-NASA-VT-94-23170; No Copyright; Avail: CASI: C01, DVD

This video presentation gives a historic look at the Pioneer, Mariner, and Voyager missions.

LeRC

Mariner Program; NASA Space Programs; Pioneer Project; Space Exploration; Voyager Project

19950004108 NASA Lewis Research Center, Cleveland, OH, USA
Challenger Center: Rendezvous with Comet Halley no. 3072
Dec 1, 1989; In English; 12 min. playing time, in color, with sound
Report No(s): LERC-3022; NASA-TM-109934; NONP-NASA-VT-94-23171; No Copyright; Avail: CASI: C01, DVD

This presentation introduces the Challenger Center and the rendezvous with Comet Halley in the 2061 scenario.

LeRC

Education; Halley's Comet

19950004109 NASA Lewis Research Center, Cleveland, OH, USA
Challenger Center: Return to the Moon no. 4005
Dec 1, 1989; In English; 8 min. 49 sec. playing time, in color, with sound
Report No(s): LERC-4005; NASA-TM-109935; NONP-NASA-VT-94-23172; No Copyright; Avail: CASI: C01, DVD

This presentation introduces the Challenger Center and the ‘return to Moon’ scenario.
LeRC
Education; Lunar Programs

19950004306 NASA Dryden Flight Research Center, Edwards, CA, USA
LLRV/Apollo 11 25th anniversary
Jul 1, 1994; In English; 2 min. 51 sec. playing time, in color, with sound
Report No(s): NASA-TM-104293; NONP-NASA-VT-94-23638; No Copyright; Avail: CASI: C01, DVD

This video salutes the 25th anniversary of the Apollo 11’s landing on the moon and Dryden’s contribution with the Lunar Landing Research Vehicle (LLRV) program.
DFRC
Apollo 11 Flight; General Overviews; Lunar Landing; Lunar Landing Modules

19950004317 NASA Johnson Space Center, Houston, TX, USA
STS-60 post flight press conference
JAN 1, 1994; In English; 18 min. playing time, in color, with sound
Report No(s): NASA-TM-109937; NONP-NASA-VT-94-23617; No Copyright; Avail: CASI: C01, DVD

This video contains footage selected by the astronauts, as well as their comments on their respective flights. It also contains launch, onboard crew activities, and landing.
JSC
Space Shuttle Missions; Space Shuttle Payloads; Space Transportation System Flights; Spaceborne Experiments

19950004318 NASA Johnson Space Center, Houston, TX, USA
STS-62 post flight press conference
JAN 1, 1994; In English; 21 min. 15 sec. playing time, in color, with sound
Report No(s): NASA-TM-109938; NONP-NASA-VT-94-23618; No Copyright; Avail: CASI: C01, DVD

This video contains footage selected by the astronauts, as well as their comments on their respective flights. It also contains launch, onboard crew activities, and landing.
JSC
Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System Flights; Spaceborne Experiments

19950004319 NASA Johnson Space Center, Houston, TX, USA
STS-61 post flight press conference
JAN 1, 1994; In English; 26 min. playing time, in color, with sound
Report No(s): NASA-TM-109939; NONP-NASA-VT-94-23619; No Copyright; Avail: CASI: C01, DVD

This video contains footage selected by the astronauts, as well as their comments on their respective flights. It also contains launch, onboard crew activities, and landing.
JSC
Space Shuttle Missions; Space Shuttle Payloads; Space Transportation System Flights; Spaceborne Experiments

19950004320 NASA Johnson Space Center, Houston, TX, USA
STS-65 post flight presentation
JAN 1, 1994; In English; 44 min. 45 sec. playing time, in color, with sound
Report No(s): NASA-TM-109940; NONP-NASA-VT-94-23620; No Copyright; Avail: CASI: C01, DVD

This video contains footage selected by the astronauts, as well as their comments on their respective flights. It also contains launch, onboard crew activities, and landing.
JSC
Space Shuttle Missions; Space Shuttle Payloads; Space Transportation System Flights; Spaceborne Experiments; Spacecraft Launching

19950004321 NASA Johnson Space Center, Houston, TX, USA
STS-59 post flight presentation
May 1, 1994; In English; 40 min. 7 sec. playing time, in color, with sound
Report No(s): NASA-TM-109941; NONP-NASA-VT-94-23621; No Copyright; Avail: CASI: C01, DVD

This video contains footage selected by the astronauts, as well as their comments on their respective flights. It also contains launch, onboard crew activities, and landing.
JSC
Space Shuttle Missions; Space Shuttle Payloads; Space Transportation System Flights; Spaceborne Experiments

19950012153 NASA Johnson Space Center, Houston, TX, USA
STS-68 mission highlights resource tape
Dec 22, 1994; In English; 58 min. 45 sec. playing time, in color, with sound
Report No(s): NASA-TM-110049; NONP-NASA-VT-95-38127; No Copyright; Avail: CASI: C01, DVD

VJSC1440 contains important visual events including Space Radar Laboratory-2, Get Away Special canisters, Commercial Protein Crystal Growth, Biological Research in Canisters, Cosmic Radiation Effects and Activation Monitor, Military Applications of Ship Tracks, other onboard activities, earth views, and landing. Also includes Air-to-ground transmission between the crew and Mission control.
Author
Cosmic Rays; Earth Observations (From Space); Ground-Air-Ground Communication; Payloads; Protein Crystal Growth; Radiation Effects; Ships; Tracking Radar

19950012625 NASA Johnson Space Center, Houston, TX, USA
Skylab: The first 40 days
JAN 1, 1973; In English; 22 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110491; NONP-NASA-VT-95-39136; No Copyright; Avail: CASI: C01, DVD

This video records the launch of unmanned Skylab-1 on May 14, 1973 and the major problems resulting from the loss of the meteoroid heat shield. Also shown is the fabrication of materials and the equipment used in the repair operation, followed by the installation of the parasol after the launch and docking of the manned SL-2 with the SL-1 workshop. The onboard sequences of daily work routines and some of the experiments are included.
JSC
Earth Resources Survey Program; Skylab Program; Skylab 1; Skylab 2; Spaceborne Experiments; Spacecraft Docking; Spacecraft Launching

19950012643 NASA Johnson Space Center, Houston, TX, USA
Legacy of Gemini
JAN 1, 1967; In English; 28 min. running time, in color, with sound
Report No(s): NASA-TM-110486; NONP-NASA-VT-95-39131; No Copyright; Avail: CASI: C01, DVD

In the perspective of a single composite mission, this documentary illustrates the major accomplishments of the Gemini two man space flights and the significance of these flights to the Apollo Program. This film includes outstanding photography of the Earth and man in space.
JSC
Apollo Project; Earth Observations (From Space); Gemini Flights; Manned Space Flight; Spaceborne Photography

19950012644 NASA Johnson Space Center, Houston, TX, USA
Skylab: The second manned mission. A scientific harvest
JAN 1, 1974; In English; 36 min. 30 sec. playing time, in black and white, no sound
Report No(s): NASA-TM-110487; NONP-NASA-VT-95-39132; No Copyright; Avail: CASI: C01, DVD

This black and white video presentation covers the Skylab launch activities and docking with unmanned SL-1 workshop. Included are observations of student experiments (the Minchmog minnows and Arabella, the spider), observations of student experiments, exercise routines, and the enabling of the Earth Resources Experiments Package. Also shown is planet Earth documentation, manned operation of the Apollo Telescope Mount for observations of the Sun and beyond, outside EVA activity, testing of the Astronaut Maneuvering Unit, experiments to explore industrial uses of space, and the Skylab living routine.
JSC
Apollo Telescope Mount; Earth Observations (From Space); Earth Resources Program; Manned Maneuvering Units; Manned Space Flight; Skylab 1; Space Technology Experiments; Spaceborne Experiments

19950012645 NASA Johnson Space Center, Houston, TX, USA
Time of Apollo
JAN 1, 1975; In English; 29 min. playing time, in color, with sound
Report No(s): NASA-TM-110488; NONP-NASA-VT-95-39133; No Copyright; Avail: CASI: C01, DVD

In the year 1961, President John F. Kennedy set forth the task that...'This nation should commit itself to achieving the goal, before this decade is out, of landing a man on the Moon and returning him safely tio Earth'. The decade is over and the task has been accomplished. Project Apollo has been achieved. This video documentary is a tribute to the historical accomplishments of the Apollo program.
JSC
Apollo Flights; Apollo Project; Lunar Exploration; Lunar Landing; Moon

19950013579 NASA, Washington, DC, USA
Challenger's night flight
Aug 1, 1983; In English; 4 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110503; NASA-ASR-222; NONP-NASA-VT-95-41115; No Copyright; Avail: CASI: C01, DVD

STS Mission 8 and its night flight (both launch and landing) are highlighted in this color video. The 5-member crew is introduced and their special assignments for this flight are discussed, along with their continuous weightlessness experiments performed during the flight. The first black astronaut, Guion S. Blufords, Jr., is introduced and file footage of an STS Mission orbiting the earth is shown.
CASI
Astronauts; Challenger (Orbiter); Launching; Night Flights (Aircraft); Spaceborne Experiments; Spacecraft Landing

19950019004 NASA Johnson Space Center, Houston, TX, USA
Apollo 12: Pinpoint for science
Sep 30, 1991; In English; 28 min. playing time, in color and black and white, with sound
Report No(s): NASA-TM-110576; JSC-536; NONP-NASA-VT-95-46065; No Copyright; Avail: CASI: C01, DVD

This video, using historical film footage, photography, and computer animation, describes the launch, flight, lunar landing and exploration, and return flight of Apollo 12, one of the manned lunar missions. The astronauts were Charles Conrad, Richard Gordon, and Allen Bean. Thirty-six seconds into the November 14, 1969 launch, the spacecraft was hit by lightning from the thunderstorm surrounding the launch site. In spite of this mishap, the vehicle and astronauts were not harmed and continued with their mission. The Yankee Clipper (command module) docked with the Intrepid (lunar module) and upon reaching the Moon, the Intrepid disconnected during lunar orbit and descended to the Moon's surface to a landing area previously marked by the Surveyor satellite. After lunar surface exploration, soil sample collection, satellite maintenance, and setting up various lunar surface monitoring equipment (a seismometer and two atmospheric monitors), the Intrepid launched back into lunar orbit, docked with the Yankee Clipper, and returned to Earth. There are both B/W and color photography and

film footage, which includes the earth launch, lunar orbit, descent and ascent of Intrepid on the Moon, return flight, atmospheric reentry, and recovery on the Earth, and ground to air and space communication is shown.
CASI
Apollo 12 Flight; Command Modules; Histories; Liftoff (Launching); Lunar Exploration; Lunar Landing; Lunar Module; Lunar Orbits; Lunar Soil; Lunar Surface; Manned Spacecraft; Moon

19950022986 NASA Johnson Space Center, Houston, TX, USA
Apollo 11: For all mankind
JAN 1, 1969; In English; 34 min. playing time, in color, with sound
Report No(s): NASA-TM-110622; NONP-NASA-VT-95-51757; No Copyright; Avail: CASI: C01, DVD

Historical film footage of Apollo 11 is shown. The pre-flight, launch, module docking, lunar orbit, lunar landing, ascent, and return-to-Earth flight is shown. There are lunar surface shots, Moon views, Earth views from Earth orbit, Earth views from the Moon, and footage of actual moon walk by astronauts. Mission control and space to ground control communication is heard.
CASI
Apollo 11 Flight; Earth Observations (From Space); Histories; Lunar Exploration; Lunar Landing; Lunar Orbits; Lunar Surface; Manned Spacecraft; Moon

19950026746 NASA, Washington, DC, USA
Shuttle to Space Station. Heart assist implant. Hubble update. X-30 mock-up
Aug 1, 1992; In English; 15 min. 17 sec. playing time, in color, with sound
Report No(s): NASA-TM-110837; NONP-NASA-VT-95-63907; No Copyright; Avail: CASI: C01, DVD

Shuttle to Space Station, Heart Assist Implant, Hubble Update, and X-30 Mockup are the four parts that are discussed in this video. The first part, Shuttle to Space Station, is focussed on the construction and function of the Space Station Freedom. While part two, Heart Assist Implant, discusses a newly developed electromechanical device that helps to reduce heart attack by using electric shocks. Interviews with the co-inventor and patients are also included. Brief introduction to Hubble Telescope, problem behind its poor image quality (mirror aberration), and the plan to correct this problem are the three issues that are discussed in part three, Hubble Update. The last part, part four, reviews the X-30 Mockup designed by the staff and students of Mississippi State University.
CASI
Cardiovascular System; Heart Diseases; Hubble Space Telescope; Space Station Freedom; X-30 Vehicle

20040200963 NASA, Washington, DC, USA
To Boldly Go: The Universe Now and Beyond
[2004]; 2 pp.; In English; 2 hrs., 1 min. playing time, in color, with sound; No Copyright; Avail: CASI: C01, DVD

Dr. France Cordova, NASA's Chief Scientist opened this, the third session in the NASA Administrator's Seminar Series, by asking the following question: 'What would be a bold and aspiring agenda for America's next era in space?' It aimed at answering the following questions: What do we know about the universe? How do we know it? (Dr. Cordova also mentioned that the first seminar was about the definition of cellular life and how to recognize it, and featured as speakers, Dr. Lynn Margoles and Dr. Leslie Orgle.) Administrator Daniel S. Goldin was introduced; he welcomed the attendees, and remarked that NASA personnel have a critical need to explain to Congress and the public why a space program is important. Congress and the public pay for the space programs. Therefore the programs' importance cannot remain in the sole domain of scientists. The first speaker, Dr. Vera Ruben of the Department of Terrestrial Magnetism at the Carnegie Institute of Washington, was introduced as an art historian expert in cosmology and an observational astronomer. Dr. Ruben brought up a number of questions regarding the substance, location, and origin of dark matter, radiation, galaxies, and the lumpy structure of galaxies in space, as well as the age and density of our universe. The next speaker was Dr. Bohdan Paczynski, a theoretical astrophysicist from Princeton University's Department of Astrophysical Sciences. The final speaker, Dr. Linda Schale is a cosmologist from the University of Texas at Austin. She was said to be a 'paleontologist of the human mind' who tries 'to understand mechanisms people use to understand the world'. The concluding discussion centered on why NASA scientists don t communicate better with people who are not highly educated. This is a big concern because to continue its work, NASA

needs to communicate the importance of its goals to the average person. Additional information is included in the original extended abstract.
Author (revised)
NASA Space Programs; Space Exploration; Education

20070030988 National Advisory Committee for Aeronautics. Langley Aeronautical Lab., Langley Field, VA USA
Apollo-Lunar Orbital Rendezvous Technique
January 1963; In English; Sound, Color, 219ft., 5.5min.; DVD produced from the original 16mm recording
Report No(s): L-762; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

The film shows artists rendition of the spacecrafts, boosters, and flight of the Apollo lunar missions. The Apollo spacecraft will consist of three modules: the manned Command Module; the Service Module, which contains propulsion systems; and the Lunar Excursion Module (LEM) to carry astronauts to the moon and back to the Command and Service Modules. The spacecraft will be launched via a three-stage Saturn booster. The first stage will provide 7.5 million pounds of thrust from five F-1 engines for liftoff and initial powered flight. The second stage will develop 1 million pounds of thrust from five J-2 engines to boost the spacecraft almost into Earth orbit. Immediately after ignition of the second stage, the Launch Escape System will be jettisoned. A single J-2 engine in the S4B stage will provide 200,000 pounds of thrust to place the spacecraft in an earth parking orbit. It also will be used to propel the spacecraft into a translunar trajectory, then it will separate from the Apollo Modules. Onboard propulsion systems will be used to insert the spacecraft into lunar orbit. Two astronauts will enter the LEM, which will separate from the command and service modules. The LEM will go into elliptical orbit and prepare for landing. The LEM will lift off of the Moon's surface to return to the Command and Service Modules, and most likely be left in lunar orbit. After leaving the Moon's orbit, and shortly before entering Earth's orbit, the Service Module will be ejected. The Command Module will be oriented for reentry into the Earth's atmosphere. A drogue parachute will deploy at approximately 50,000 feet, followed by the main parachute system for touchdown.
Derived from text
Apollo Spacecraft; Lunar Orbits; Earth Orbits; Spacecraft Modules; Lunar Landing; Saturn Launch Vehicles; Spacecraft Reentry

13
ASTRODYNAMICS

Includes powered and free flight trajectories; orbital and launching dynamics.

19940011020 NASA, Washington, DC, USA
Space flight: The application of orbital mechanics
Dec 1, 1989; In English; 35 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-109424; NONP-NASA-VT-93-190221; No Copyright; Avail: CASI: C01, DVD

This is a primer on orbital mechanics originally intended for college-level physics students.
CASI
Orbital Mechanics; Space Navigation

20070030976 NASA Langley Research Center, Hampton, VA USA
Simulator Study of Lunar Orbit Establishment
June 1965; In English; Silent, Black & White, 250ft., 6.75min.; DVD produced from the original 16mm recording
Report No(s): L-876; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

The film was made using the Lunar Orbit and Landing Approach Simulator (LOLA). It represents the view an astronaut would see if he were looking toward the lunar horizon just prior to and during retrofire for orbit establishment. During this period the astronaut is essentially flying backward, therefore the lunar surface features appear to be moving away during the flight.
Derived from text
Lunar Orbits; Lunar Surface; Lunar Orbit and Landing Simulators; Lunar Landing

14
GROUND SUPPORT SYSTEMS AND FACILITIES (SPACE)

Includes launch complexes, research and production facilities; ground support equipment, e.g., mobile transporters; and test chambers and simulators. Also includes extraterrestrial bases and supporting equipment. For related information see also *09 Research and Support Facilities (Air)*.

19940010262 NASA Johnson Space Center, Houston, TX, USA
STS-35 crew trash compactor briefing
May 1, 1990; In English; 7 min. 50 sec. playing time, in color, with sound
Report No(s): JSC-1170; NASA-TM-109487; NONP-NASA-VT-93-190284; No Copyright; Avail: CASI: C01, DVD

Parker, Brand, and Gardner are shown in the CCT learning how to work the trash compactor on the middeck.
Author
Garbage; Spacecrews; Waste Disposal

19940010314 NASA Johnson Space Center, Houston, TX, USA
STS-35 integrated sim in SMS and MOCR
May 1, 1990; In English; 22 min. 10 sec. playing time, in color, with sound
Report No(s): JSC-1167; NASA-TM-109491; NONP-NASA-VT-93-190288; No Copyright; Avail: CASI: C01, DVD

A clip that intercuts between the MOCR and the SMS during an STS-35 sim is provided.
Author (revised)
Space Transportation System; Space Transportation System Flights

19940010763 NASA, Washington, DC, USA
Human factor studies
Aug 1, 1985; In English; 2 min. 55 sec. playing time, in color, with sound
Report No(s): NASA-TM-109665; NONP-NASA-VT-93-190463; ASR-239; No Copyright; Avail: CASI: C01, DVD

This video looks at research done in the Manned Vehicle Systems Research Facility at ARC to investigate issues related to aircraft pilot and crew performance.
CASI
Aircraft Pilots; Flight Crews; Human Factors Engineering; Human Performance

19940010792 NASA Johnson Space Center, Houston, TX, USA
STS-30 suited ascent training in fixed base SMS
Apr 1, 1989; In English; 10 min. 59 sec. playing time, in color, with sound
Report No(s): JSC-1112; NASA-TM-109581; NONP-NASA-VT-93-190379; No Copyright; Avail: CASI: C01, DVD

The Space Shuttle crew is shown training for the ascent portion of the mission in the fixed base/SMS.
CASI
Ascent; Astronaut Training; Space Shuttle Missions

19940010797 NASA Goddard Space Flight Center, Greenbelt, MD, USA
GFSC-TV demo tape
Jan 1, 1989; In English; 8 min. 20 sec. playing time, in color, with sound
Report No(s): GSFC-S-32; NASA-TM-109586; NONP-NASA-VT-93-190384; No Copyright; Avail: CASI: C01, DVD

This demonstration tape produced by and for the Goddard Space Flight Center Television facility shows some of the capabilities of this state of the art facility that are available to projects at Goddard.
CASI
Research Facilities; Test Facilities

19940010800 NASA Goddard Space Flight Center, Greenbelt, MD, USA
Stock footage of Goddard Space Flight Center and Headquarters
Jun 1, 1989; In English; 25 min. playing time, in color, with sound
Report No(s): GSFC-S-36; NASA-TM-109589; NONP-NASA-VT-93-190387; No Copyright; Avail: CASI: C01, DVD

Produced for Century Teleproductions in Boston, MA this video is a camera master showing various views, with natural sound, of the space flight center during the late spring. This finished footage is used in an interactive laser disc presentation that is used at Kennedy Space Center Visitor Center.
CASI
NASA Space Programs; Research Facilities

19940010826 NASA Johnson Space Center, Houston, TX, USA
The 61-M long duration sim video highlights resource tape
Jan 1, 1988; In English; 37 min. playing time, in color, with sound
Report No(s): JSC-1025; NASA-TM-109569; NONP-NASA-VT-93-190367; No Copyright; Avail: CASI: C01, DVD

This video shows the crew on the middeck mockup during the long duration sim. The video also shows the FCR during the sim.
CASI
Astronaut Training; Space Environment Simulation; Space Shuttle Missions

19940010828 NASA Johnson Space Center, Houston, TX, USA
STS-30 Magellan deploy Sim in SMS and MOCR
Feb 1, 1989; In English; 9 min. playing time, in color, with sound
Report No(s): JSC-1087; NASA-TM-109571; NONP-NASA-VT-93-190369; No Copyright; Avail: CASI: C01, DVD

The Space Shuttle crew is shown in SMS training for the Magellan spacecraft deploy. Intercuts of the MOCR are included.
CASI
Astronaut Training; Magellan Spacecraft (NASA); Space Shuttle Missions

19940010845 NASA Ames Research Center, Moffett Field, CA, USA
Manned vehicle systems research facility
Mar 1, 1989; In English; 8 min. playing time, in color, with sound
Report No(s): AAV-1250; NASA-TM-109650; NONP-NASA-VT-93-190448; No Copyright; Avail: CASI: C01, DVD

This video presents a guided tour of the Manned Vehicle Systems Research Facility (MVSRF) at ARC.
CASI
Flight Simulation; Man Machine Systems; Research Facilities

19940010858 NASA Johnson Space Center, Houston, TX, USA
STS-26 IUS and latch contingency training
Mar 1, 1988; In English; 16 min. 53 sec. playing time, in color, with sound
Report No(s): JSC-1049; NASA-TM-109561; NONP-NASA-VT-93-190359; No Copyright; Avail: CASI: C01, DVD

Astronauts Nelson and Lounge are shown in the WETF while astronauts Covey and Hilmer observe topside.
CASI
Astronaut Training; Astronauts; Spacecrews; Weightlessness Simulation

19940010859 NASA Johnson Space Center, Houston, TX, USA
STS-26 generic integrated IUS deploy simulation
Feb 1, 1988; In English; 16 min. 10 sec. playing time, in color, with sound
Report No(s): JSC-1046; NASA-TM-109562; NONP-NASA-VT-93-190360; No Copyright; Avail: CASI: C01, DVD

The crew is shown in the SMS during TDRS deploy training. It includes intercuts of the MOCR.
CASI
Astronaut Training; Inertial Upper Stage; Simulation; Space Shuttle Missions; Spacecrews; TDR Satellites

19940010860 NASA Johnson Space Center, Houston, TX, USA
STS-26 EVA rescue training
Jul 1, 1988; In English; 15 min. playing time, in color, with sound
Report No(s): JSC-1066; NASA-TM-109563; NONP-NASA-VT-93-190361; No Copyright; Avail: CASI: C01, DVD

This video shows astronauts Covey, Hilmers, and Hauck training in SES. It involves a simulated EVA rescue using the RMS. A computer-generated image is used to simulate the movement of a free-floating astronaut for grapple with the arm.
CASI
Astronaut Training; Computerized Simulation; Extravehicular Activity; Remote Manipulator System; Rescue Operations; Space Shuttle Missions

19940010913 NASA Johnson Space Center, Houston, TX, USA
Building 46 grand opening
Feb 1, 1989; In English; 5 min. playing time, in color, with sound
Report No(s): JSC-1094; NASA-TM-109524; NONP-NASA-VT-93-190321; No Copyright; Avail: CASI: C01, DVD

This video shows the grand opening ceremonies of Building 46 Central Computer Facility at the NASA Johnson Space Center.
CASI
Facilities; Research Facilities

19940010920 NASA Johnson Space Center, Houston, TX, USA
Lunar Curatorial Facility resource
Jul 1, 1989; In English; 6 min. 46 sec. playing time, in color, no sound
Report No(s): JSC-CL-1231; NASA-TM-109531; NONP-NASA-VT-93-190328; No Copyright; Avail: CASI: C01, DVD

This video shows daily activities in the Lunar Curatorial Facility. The video covers the various studies being conducted on lunar dust, rock, and core samples brought back by Apollo crews.
CASI
Lunar Dust; Lunar Rocks; Lunar Soil; Research Facilities

19940010969 NASA Johnson Space Center, Houston, TX, USA
STS-31 Hubble space telescope deploy: Training at MDF with Hawley
Apr 1, 1990; In English; 7 min. 30 sec. playing time, in color, with sound
Report No(s): JSC-1165; NASA-TM-109481; NONP-NASA-VT-93-190278; No Copyright; Avail: CASI: C01, DVD

Astronaut Steve Hawley is shown working with the Hubble Space Telescope mockup on the Remote Manipulator System mockup above the Manipulator Development Facility (MDF).
CASI
Astronaut Training; Hubble Space Telescope; Space Shuttle Missions

19940010976 NASA Johnson Space Center, Houston, TX, USA
STS-31 HST deploy sim in SMS and MOCR
Apr 1, 1990; In English; 15 min. playing time, in color, with sound
Report No(s): JSC-1164; NASA-TM-109482; NONP-NASA-VT-93-190279; No Copyright; Avail: CASI: C01, DVD

This video shows the crew on a simulated middeck during the Hubble Space Telescope (HTS) deploy simulation. Intercut from the MOCR is included.
CASI
Astronaut Training; Hubble Space Telescope; Simulation

19940010977 NASA Johnson Space Center, Houston, TX, USA
STS-31 crew training inflight maintenance and bailout exercises in CCT and WETF
Mar 1, 1990; In English; 19 min. playing time, in color, with sound
Report No(s): JSC-1154; NASA-TM-109483; NONP-NASA-VT-93-190280; No Copyright; Avail: CASI: C01, DVD

The crew is shown in the CCT practicing on orbit maintenance tasks, along with bailout procedures. The crew is also

shown practicing water survival techniques in the Weightless Environment Training Facility (WETF).
CASI
Astronaut Training; Bailout; Crew Procedures (Inflight); Maintenance Training; Space Shuttle Missions; Weightlessness Simulation

19940010978 NASA Johnson Space Center, Houston, TX, USA
STS-31 crew training: firefighting, food tasting, EVA prep and post
Mar 1, 1990; In English; 17 min. 35 sec. playing time, in color, with sound
Report No(s): JSC-1156; NASA-TM-109484; NONP-NASA-VT-93-190281; No Copyright; Avail: CASI: C01, DVD

The Space Shuttle crew is shown lighting a pond of gasoline and then performing firefighting tasks. The crew is also shown tasting food including lemonade, chicken casserole, and tortillas, and performing extravehicular activity (EVA) equipment checkouts in the CCT middeck and airlock.
CASI
Astronaut Training; Consumables (Spacecrew Supplies); Fire Fighting; Space Vehicle Checkout Program; Spacecraft Maintenance

19940010979 NASA Johnson Space Center, Houston, TX, USA
STS-40 crew during spacelab Sim
Aug 1, 1990; In English; 12 min. 50 sec. playing time, in color, with sound
Report No(s): JSC-1178; NASA-TM-109493; NONP-NASA-VT-93-190290; No Copyright; Avail: CASI: C01, DVD

Crew members working in the SLS-1 simulator are shown. Activities in the module mockup include work with the cardiovascular equipment, Body Mass Measurement Device, and Jellyfish experiment.
Author (revised)
Exobiology; Life Sciences; SIM; Simulators; Space Shuttle Missions; Space Transportation System Flights; Spaceborne Experiments; Spacelab; Spacelab Payloads

19940010994 NASA Johnson Space Center, Houston, TX, USA
Richards, Dick: Training clip
Jul 1, 1989; In English; 12 min. playing time, in color, with sound
Report No(s): JSC-1117; NASA-TM-109503; NONP-NASA-VT-93-190300; No Copyright; Avail: CASI: C01, DVD

Astronaut Richards is shown during his ASCAN training, including weightless environment training facility (WETF) training and various simulations.
CASI
Astronaut Training; Astronauts; Space Environment Simulation; Training Simulators; Weightlessness Simulation

19940011000 NASA Johnson Space Center, Houston, TX, USA
Commitment to challenge
May 1, 1988; In English; 13 min. playing time, in color, with sound
Report No(s): JSC-1052R; NASA-TM-109523; NONP-NASA-VT-93-190320; No Copyright; Avail: CASI: C01, DVD

This video gives a brief overview of the NASA JSC including the following: mission control, mission operations, and mission planning; new scientific and technologies developments; and educational programs.
CASI
Mission Planning; NASA Space Programs; Research Facilities; Space Laboratories

19940011001 NASA Johnson Space Center, Houston, TX, USA
STS-26 long duration simulation: Crew entering SMS
Sep 1, 1988; In English; 2 min. 45 sec. playing time, in color, with sound
Report No(s): JSC-1071; NASA-TM-109560; NONP-NASA-VT-93-190358; No Copyright; Avail: CASI: C01, DVD

This video shows the crew entering the SMS for the long-duration SIM in preparation for their flight.
CASI
Astronaut Training; Astronauts; Long Duration Space Flight; Simulation

19940011044 NASA Johnson Space Center, Houston, TX, USA

STS-41 crew training bailout in CCT, 16mm camera class EVA prep, habitation equipment procedures, and food tasting

Sep 1, 1990; In English; 17 min. 27 sec. playing time, in color, with sound

Report No(s): NASA-TM-109517; NONP-NASA-VT-93-190314; No Copyright; Avail: CASI: C01, DVD

This video shows the crew during several training exercises including work in the CCT, photography class, and food tasting.

CASI

Astronaut Training; Bailout; Photography; Space Transportation System Flights

19940027308 NASA Lewis Research Center, Cleveland, OH, USA

Aerospace test facilities at NASA LERC Plumbrook

Oct 1, 1992; In English; 10 min. 30 sec. playing time, in color, with sound

Report No(s): LERC-92-199; NASA-TM-109755; NONP-NASA-VT-94-9955; No Copyright; Avail: CASI: C01, DVD

An overview of the facilities and research being conducted at LeRC's Plumbrook field station is given. The video highlights four main structures and explains their uses. The Space Power Facility is the worlds largest space environment simulation chamber, where spacebound hardware is tested in simulations of the vacuum and extreme heat and cold of the space plasma environment. This facility was used to prepare Atlas 1 rockets to ferry CRRES into orbit; it will also be used to test space nuclear electric power generation systems. The Spacecraft Propulsion Research Facility allows rocket vehicles to be hot fired in a simulated space environment. In the Cryogenic Propellant Tank Facility, researchers are developing technology for storing and transferring liquid hydrogen in space. There is also a Hypersonic Wind Tunnel which can perform flow tests with winds up to Mach 7.

CASI

Aerospace Engineering; Cryogenic Fluid Storage; Environmental Tests; NASA Programs; Nuclear Electric Power Generation; Research and Development; Research Facilities; Research Projects; Space Environment Simulation; Spacecraft Propulsion; Test Facilities

19940029052 NASA Stennis Space Center, Stennis Space Center, MS, USA

Stennis Space Center 1992

JAN 1, 1992; In English; 9 min. 45 sec. playing time, in color, with sound

Report No(s): NASA-TM-109796; NONP-NASA-VT-94-12924; No Copyright; Avail: CASI: C01, DVD

The history and a description of the John C. Stennis Space Center is presented.

CASI

Histories; NASA Space Programs; Test Facilities

19940029054 NASA Lewis Research Center, Cleveland, OH, USA

The making of the time capsule

Jan 1, 1991; In English; 7 min. 55 sec. playing time, in color, with sound

Report No(s): LERC-90-113; NASA-TM-109807; NONP-NASA-VT-94-12935; No Copyright; Avail: CASI: C01, DVD

This video highlights the celebration of NASA Lewis Research Center's 50th anniversary celebrations. To commemorate this event, employees designed and manufactured a statue that contains a time capsule. The design process is shown, as well as the unveiling ceremony which features speeches by the center director and local dignitaries.

CASI

NASA Programs; Structures

19940029061 NASA Stennis Space Center, Bay Saint Louis, MS, USA

John C. Stennis Space Center overview

May 1, 1994; In English; 11 min. playing time, in color, with sound

Report No(s): NASA-TM-109816; NONP-NASA-VT-94-12944; No Copyright; Avail: CASI: C01, DVD

An overview of research being conducted at the John C. Stennis Space Center is given. The Space Center is not only a NASA Space Flight Center, but also houses facilities for 22 other governmental agencies. The programs described are Stennis' High Heat Flux Facility, the Component Test Facility (used to test propulsion rockets and for the development of the National

Aerospace Plane), oceanographic and remote sensing research, and contributions to the development of Space Station Freedom.
CASI
National Aerospace Plane Program; Research Facilities; Space Station Freedom; Test Facilities

19940029265 NASA Stennis Space Center, Stennis Space Center, MS, USA
Way station to space: The history of Stennis Space Center
JAN 1, 1994; In English; 25 min. playing time, in color, with sound
Report No(s): NASA-TM-109819; NONP-NASA-VT-94-12947; No Copyright; Avail: CASI: C01, DVD

The video traces the history of the Stennis Space Center from its origins as a test facility for President Kennedy's initiative to put a man on the moon to its present day tasks as a leading center for propulsion research and its contributions towards the development or Space Station Freedom.
CASI
Histories; NASA Programs; Test Facilities

19950004142 NASA, Washington, DC, USA
Goldstone
Aug 1, 1991; In English; 6 min. 21 sec. playing time, with sound
Report No(s): NASA-TM-109905; NONP-NASA-VT-94-23147; ASR-257; No Copyright; Avail: CASI: C01, DVD

Goldstone is a complex of deep space communications antennas that command and receive information from satellites or receive information from satellites or about distant stars and galaxies. The video feature discusses the Goldstone complex and its 30 plus years of service to NASA.
CASI
Ground Stations; Space Communication; Tracking Stations

15
LAUNCH VEHICLES AND LAUNCH OPERATIONS

Includes all classes of launch vehicles, launch/space vehicle systems, and boosters; and launch operations. For related information see also *18 Spacecraft Design, Testing and Performance*; and *20 Spacecraft Propulsion and Power*.

19940010868 NASA, Washington, DC, USA
Mission San Marco
Nov 1, 1988; In English; 3 min. 14 sec. playing time, in color, with sound
Report No(s): ASR-248; NASA-TM-109442; NONP-NASA-VT-93-190239; No Copyright; Avail: CASI: C01, DVD

The video shows a satellite launch from San Marco, Africa.
CASI
San Marco Satellites; Spacecraft Launching

19950006716 NASA Johnson Space Center, Houston, TX, USA
White Sands Test Facility
JAN 1, 1994; In English; 27 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-109901; NONP-NASA-VT-94-28237; No Copyright; Avail: CASI: C01, DVD

This is an overview of the White Sands Test Facility's role in ensuring the safety and reliability of materials and hardware slated for launch aboard the Space Shuttle. Engine firings, orbital flights debris impact tests, and propulsion tests are featured as well as illustrating how they provide flight safety testing for the Johnson Space Center, other NASA centers, and various government agencies. It also contains a historical perspective and highlights of major programs that have been participated in as part of NASA.
JSC
Flight Safety; Prelaunch Tests; Propulsion; Space Shuttles; Test Facilities

19950007287 NASA Goddard Space Flight Center, Greenbelt, MD, USA
Delta, America's Space Ambassador
Oct 1, 1994; In English; 24 min.
Report No(s): NASA-TM-110046; NONP-NASA-VT-94-29868; No Copyright; Avail: CASI: C01, DVD

This video presentation features the major satellites launched by the Delta rocket in a celebration of this dependable launch vehicle's past.

GSFC
Delta Launch Vehicle; Space Programs

19950011735 NASA Goddard Space Flight Center, Greenbelt, MD, USA
Meteor 3/TOMS launch of 15 August 1991 in Plesetsk, USSR
Aug 3, 1994; In English; 11 min. 34 sec. playing time, in color, with sound
Report No(s): NASA-TM-110115; NONP-NASA-VT-95-37004; No Copyright; Avail: CASI: C01, DVD

The TOMS launch of August 15, 1991, was a joint effort between the U.S.S.R. and the USA. The pre-launch briefing, a tour of the TOMS storage site, it's delivery and setup at the launch site, and the actual launch were viewed in this video, along with a post-launch conference and a dinner. The launch occurred in Plesetsk, U.S.S.R., with the TOMS payload being launched on a Soviet Meteor. Officials from NASA were present for the launch.

CASI
Atmospheric Circulation; International Cooperation; Liftoff (Launching); Meteorological Satellites; Ozone Depletion; Payloads; Total Ozone Mapping Spectrometer

20070030963 NASA Langley Research Center, Hampton, VA USA
USA Space Explorations 1958
April 03, 1962; In English; Sound, Color, 690ft., 19min.; DVD produced from the original 16mm recording
Report No(s): L-703; HQ-8; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

The film describes preparation and launch of five satellites and two space probes during 1958. On January 31, a Jupiter vehicle launched Explorer I into space. Data from this satellite was used to identify the van Allen radiation belts. On March 17, a Vanguard I rocket launched an Earth satellite with solar batteries. Data from the mission was used to determine that the Earth is slightly pear-shaped. On March 26, Explorer III was launched to further study the van Allen belts, micrometeoroid impacts, and internal and external temperatures. Explorer IV, launched on July 26, was intended to study radiation and temperature data. A lunar probe, ABLE I, was intended to measure radiation, magnetic fields of Earth and the Moon, density of micrometeoric matter, and internal temperatures. A four-stage rocket was used in the launch. However, a turbo-pump failed and the liquid oxygen pump stopped, resulting in a failed mission. On October 10, Pioneer I was launched by an ABLE vehicle. First and second stage velocity was less than desired and the probe did not leave Earth orbit. Attempts to attain escape velocity were unsuccessful. On December, a Jupiter boost vehicle was used to launch Juno II, with Pioneer III as the payload. Escape velocity was reached and Pioneer III left Earth's atmosphere. Failed launches, such as those of Vanguard boost vehicles and several Explorer satellites, also added to scientific knowledge.

CASI
United States; Rocket Launching; Launch Vehicles; NASA Space Programs; Space Exploration

20070030984 NASA Langley Research Center, Hampton, VA USA
Launch Vehicle Dynamics Demonstrator Model
June 1963; In English; Silent, Color, 125ft., 3min.; DVD produced from the original 16mm recording
Report No(s): L-789; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

The effect of vibration on launch vehicle dynamics was studied. Conditions included three modes of instability. The film includes close up views of the simulator fuel tank with and without stability control.

Derived from text
Launch Vehicles; Stability Tests; Vibration Effects; Rocket Launching

20090017455 NASA Marshall Space Flight Center, Huntsville, AL, USA

NASA's MSFC Welding Development for ARES I

October 10, 2008; In English; See also 20090015019; See also MSFC-2114; sound; color; 6:36 playing time

Report No(s): MSFC-2114; No Copyright; Avail: CASI: C01, CD-ROM

The movie describes NASA's Constellation Program, including the development of the ARES launch systems.

CASI

Ares 1 Launch Vehicle; Constellation Program

16
SPACE TRANSPORTATION AND SAFETY

Includes passenger and cargo space transportation, e.g., shuttle operations; and space rescue techniques. For related information see also *03 Air Transportation and Safety; 15 Launch Vehicles and Launch Operations*; and *18 Spacecraft Design, Testing and Performance*. For space suits see *54 Man/System Technology and Life Support*.

19940009165 NASA Johnson Space Center, Houston, TX, USA

Launch, entry, and landing resource clip

Jan 1, 1989; In English; 9 min. 20 sec. playing time, in color, with sound

Report No(s): JSC-CL-1216; NASA-TM-109297; NONP-NASA-VT-93-185312; No Copyright; Avail: CASI: C01, DVD

A video of scenes of the shuttle during launch is presented. The scenes were shot from various points of view. The following scenes are also included: SRB and ET separation, OMS burn, reentry glow, and landing at Edwards AFB, California.

Author (revised)

Space Shuttle Missions; Spacecraft Landing; Spacecraft Launching; Spacecraft Reentry

19940009168 NASA Johnson Space Center, Houston, TX, USA

STS-29 post-insertion/deorbit prep and crew bailout

Jan 1, 1989; In English; 12 min. playing time, in color, with sound

Report No(s): JSC-1093; NASA-TM-109299; NONP-NASA-VT-93-185314; No Copyright; Avail: CASI: C01, DVD

Crew enters CCT after donning vests where they practice post insertion deorbit prepared for bailout procedure. Entire crew takes turns bailing out through the side hatch of the CCT.

Author

Aerospace Safety; Bailout; Space Shuttle Mission 61-A; Spacecrews

19940010261 NASA Johnson Space Center, Houston, TX, USA

STS-33 launch and landing clip

Nov 1, 1989; In English; 20 min. playing time, in color, with sound

Report No(s): JSC-1144; NASA-TM-109468; NONP-NASA-VT-93-190265; No Copyright; Avail: CASI: C01, DVD

Launch (from engine gimbal to loss of sight) and landing of the Shuttle at Edwards AFB, California, from ground-based cameras is shown.

Author (revised)

Space Shuttles; Space Transportation System; Spacecraft Landing; Spacecraft Launching

19940010263 NASA Johnson Space Center, Houston, TX, USA

STS-35 post-flight press conference

May 1, 1990; In English; 18 min. playing time, in color, with sound

Report No(s): JSC-1172; NASA-TM-109490; NONP-NASA-VT-93-190287; No Copyright; Avail: CASI: C01, DVD

The following contains footage selected and narrated by the crew. The footage covers the following areas: launch, work with the ASTRO-1 payload, onboard activities, and landing.

Author (revised)

Conferences; Space Transportation System; Space Transportation System Flights

19940010752 NASA Johnson Space Center, Houston, TX, USA
Astro smile
Mar 1, 1989; In English; 20 min. 3 sec. playing time, in color, with sound
Report No(s): JSC-981R; NASA-TM-109506; NONP-NASA-VT-93-190303; No Copyright; Avail: CASI: C01, DVD

This is a humorous look at life aboard the Space Shuttle.
CASI
Human Behavior; Laughing; Spacecrews

19940010788 NASA Johnson Space Center, Houston, TX, USA
STS-26 Post-Flight Press Conference
Oct 1, 1988; In English; 15 min. playing time, in color, with sound
Report No(s): JSC-1075; NASA-TM-109557; NONP-NASA-VT-93-190355; No Copyright; Avail: CASI: C01, DVD

This video contains footage selected and narrated by the STS-26 crew including launch, TDRS-C/IUS (Tracking and Data Relay Satellite C / Inertial Upper Stage) deployment, onboard activities, and landing.
CASI
Deployment; Space Shuttle Missions; TDR Satellites

19940010789 NASA Johnson Space Center, Houston, TX, USA
STS-26 onboard 16mm photography quick release
Oct 1, 1988; In English; 23 min. playing time, in color, with sound
Report No(s): JSC-CL-1220; NASA-TM-109558; NONP-NASA-VT-93-190356; No Copyright; Avail: CASI: C01, DVD

This video features scenes shot by the crew of onboard activities including the TDRS (Tracking and Data Relay Satellite) deploy, Earth views, and middeck experiments.
CASI
Deployment; Space Shuttle Missions; TDR Satellites

19940010791 NASA Johnson Space Center, Houston, TX, USA
STS-30 Post-Flight Press Conference
May 1, 1989; In English; 16 min. 30 sec. playing time, in color, with sound
Report No(s): JSC-1113; NASA-TM-109580; NONP-NASA-VT-93-190378; No Copyright; Avail: CASI: C01, DVD

This video contains footage selected and narrated by the Commander and Space Shuttle crew including launch, Magellan/IUS deployment, onboard crew activities, and landing.
CASI
Crew Procedures (Inflight); Space Shuttle Missions; Space Shuttle Orbiters

19940010793 NASA Johnson Space Center, Houston, TX, USA
STS-30 mission tape
May 1, 1989; In English; 59 min. playing time, in color, with sound
Report No(s): JSC-1114; NASA-TM-109582; NONP-NASA-VT-93-190380; No Copyright; Avail: CASI: C01, DVD

This video contains important visual events including launch, Magellan/IUS Highlights Resource onboard crew activities, and landing. Air-to-ground transmission between the crew and Mission control is also included.
CASI
Crew Procedures (Inflight); Space Shuttle Missions

19940010833 NASA Johnson Space Center, Houston, TX, USA
STS-29 Post-Flight Press Conference
Apr 1, 1989; In English; 22 min. playing time, in color, with sound
Report No(s): JSC-1097; NASA-TM-109575; NONP-NASA-VT-93-190373; No Copyright; Avail: CASI: C01, DVD

This video contains footage selected and narrated by the Commander and the Space Shuttle crew including launch, TDRS-D/IUS deployment, onboard crew activities, and landing.
CASI
Crew Procedures (Inflight); Space Shuttle Missions; Space Shuttle Orbiters; Spacecrews

19940010834 NASA Johnson Space Center, Houston, TX, USA
STS-29 onboard 16mm photography quick release
Mar 1, 1989; In English; 24 min. 20 sec. playing time, in color, with sound
Report No(s): JSC-1227; NASA-TM-109576; NONP-NASA-VT-93-190374; No Copyright; Avail: CASI: C01, DVD

This video features scenes shot by the crew of onboard activities including Earth shots, middeck experiments, TDRS deploy, and other mission objectives.
CASI
Crew Procedures (Inflight); Space Shuttle Missions

19940010841 NASA, Washington, DC, USA
Space Shuttle highlights
Jan 1, 1985; In English; 3 min. 20 sec. playing time, in color, with sound
Report No(s): ASR-236; NASA-TM-109606; NONP-NASA-VT-93-190404; No Copyright; Avail: CASI: C01, DVD

This video recaps the space shuttle successes of 1984: STS 41-B, STS 41-C, STS 41-G, and 51-A.
CASI
NASA Programs; Space Shuttles; Space Transportation System Flights

19940010844 NASA Johnson Space Center, Houston, TX, USA
Return to Space Mission: The STS-26 crew report
Feb 1, 1989; In English; 17 min. 30 sec. playing time, in color, with sound
Report No(s): JSC-1082-R; NASA-TM-109568; NONP-NASA-VT-93-190366; No Copyright; Avail: CASI: C01, DVD

This video features footage from NASA's return to space flight after the 51-L accident. The video is narrated by the crew, and it includes the following: launch, landing, and the TDRS/IUS deployment.
CASI
Deployment; Space Missions; Space Transportation System Flights; Spacecraft Landing; Spacecraft Launching

19940010873 NASA, Washington, DC, USA
Gearing up for 1988
Dec 1, 1986; In English; 4 min. 59 sec. playing time, in color, with sound
Report No(s): ASR-242; NASA-TM-109617; NONP-NASA-VT-93-190415; No Copyright; Avail: CASI: C01, DVD

This video explains all engineering efforts to ensure safety and reliability for the next Shuttle mission, STS-26.
CASI
Aerospace Safety; Space Shuttle Mission 51-F; Spacecraft Reliability

19940010880 NASA Johnson Space Center, Houston, TX, USA
STS-34 Space Shuttle Portable Onboard Computer (SPOC) briefing
Aug 1, 1989; In English; 7 min. 10 sec. playing time, in color, with sound
Report No(s): JSC-1122; NASA-TM-109458; NONP-NASA-VT-93-190255; No Copyright; Avail: CASI: C01, DVD

The Space Shuttle crew is shown learning how to operate the Shuttle Portable Onboard Computer (SPOC).
CASI
Airborne/Spaceborne Computers; Space Shuttle Orbiters; Space Shuttles

19940010881 NASA Johnson Space Center, Houston, TX, USA
STS-34 post-flight press conference
Nov 1, 1989; In English; 8 min. 54 sec. playing time, in color, with sound
Report No(s): JSC-1129; NASA-TM-109459; NONP-NASA-VT-93-190256; No Copyright; Avail: CASI: C01, DVD

This video contains footage selected and narrated by crew including launch, Galileo/IUS deployment, onboard crew activities, and landing.
CASI
Space Shuttle Missions; Spacecrews

19940010882 NASA Johnson Space Center, Houston, TX, USA
STS-34 onboard 16mm photography quick release
Oct 1, 1989; In English; 23 min. 50 sec. playing time, in color, with sound
Report No(s): JSC-1236; NASA-TM-109460; NONP-NASA-VT-93-190257; No Copyright; Avail: CASI: C01, DVD

This video features scenes shot by the crew of onboard activities including Galileo deploy, Shuttle Solar Backscatter Ultraviolet (SSBUV) student experiments, other activities on the flight deck and middeck, and Earth and payload bay views.
CASI
Photography; Space Shuttle Missions

19940010883 NASA Johnson Space Center, Houston, TX, USA
STS-34 mission highlights resource tape, part 1
Nov 1, 1989; In English; 53 min. 21 sec. playing time, in color, with sound
Report No(s): JSC-1127; NASA-TM-109461; NONP-NASA-VT-93-190258; No Copyright; Avail: CASI: C01, DVD

This video contains important visual events including launch Galileo/IUS deployment, onboard crew activities, and landing. Also included is air-to-ground transmission between the crew and Mission Control.
CASI
Space Shuttle Missions; Spacecrews

19940010884 NASA Johnson Space Center, Houston, TX, USA
STS-34 McCully and Baker during IFM training
Aug 1, 1989; In English; 10 min. 20 sec. playing time, in color, with sound
Report No(s): JSC-1121; NASA-TM-109462; NONP-NASA-VT-93-190259; No Copyright; Avail: CASI: C01, DVD

Astronauts McCully and Baker are shown learning how to use various tools that will be aboard the Space Shuttle. They are also seen cleaning air filters and checking wires.
CASI
Astronaut Training; Crew Procedures (Inflight); Space Shuttles; Spacecrews

19940010885 NASA Johnson Space Center, Houston, TX, USA
STS-34 Galileo integrated deploy sim
Sep 1, 1989; In English; 12 min. 23 sec. playing time, in color, with sound
Report No(s): JSC-1125; NASA-TM-109463; NONP-NASA-VT-93-190260; No Copyright; Avail: CASI: C01, DVD

The Space Shuttle crew practices Galileo deploy from the SMS. Intercuts of the MOCR are included.
CASI
Crew Procedures (Inflight); Galileo Spacecraft; Space Shuttle Missions

19940010900 NASA Johnson Space Center, Houston, TX, USA
STS-29 mission highlights resource tape
Apr 1, 1989; In English; 58 min. playing time, in color, with sound
Report No(s): JSC-1098; NASA-TM-109542; NONP-NASA-VT-93-190339; No Copyright; Avail: CASI: C01, DVD

This video contains important visual events including launch, TDRS-D/IUS deployment, onboard crew activities, and landing. Also included are air-to-ground transmission between the crew and Mission Control.
CASI
Astronauts; Space Communication; Space Shuttle Missions; Space Shuttle Payloads; Space Transportation System Flights; Spacecraft Launching; Spacecrews; TDR Satellites

19940010903 NASA Johnson Space Center, Houston, TX, USA
STS-32 onboard 16mm photography quick release
Jan 1, 1990; In English; 21 min. 50 sec. playing time, in color, with sound
Report No(s): JSC-1240; NASA-TM-109472; NONP-NASA-VT-93-190269; No Copyright; Avail: CASI: C01, DVD

This video features scenes, shot by the crew, of onboard activities including Syncom deploy, Long Duration Exposure Facility retrieval, various middeck experiments, and Earth and payload bay views.
CASI
Long Duration Exposure Facility; Payload Retrieval (STS); Space Shuttle Missions; Space Shuttle Payloads; Syncom 4 Satellite

19940010906 NASA Johnson Space Center, Houston, TX, USA
STS-32 LDEF approach in SES
Nov 1, 1989; In English; 9 min. 50 sec. playing time, in color, with sound
Report No(s): JSC-1132; NASA-TM-109474; NONP-NASA-VT-93-190271; No Copyright; Avail: CASI: C01, DVD

Astronauts Wetherbee, Dunbar, and Low are shown in the Shuttle Engineering Simulator (SES) practicing techniques for approaching the Long Duration Exposure Facility on orbit.
CASI
Astronaut Training; Long Duration Exposure Facility; Payload Retrieval (STS); Shuttle Engineering Simulator; Simulation

19940010911 NASA Johnson Space Center, Houston, TX, USA
STS-31 Post-Flight Conference
May 1, 1990; In English; 22 min. 10 sec. playing time, in color, with sound
Report No(s): JSC-1167; NASA-TM-109477; NONP-NASA-VT-93-190274; No Copyright; Avail: CASI: C01, DVD

This video contains footage selected and narrated by the STS-31 Commander and crew including launch, Hubble Space Telescope deployment, onboard activities, and landing.
CASI
Hubble Space Telescope; Space Shuttle Missions

19940010916 NASA Johnson Space Center, Houston, TX, USA
Movement in microgravity
May 1, 1988; In English; 8 min. 50 sec. playing time, in color, no sound
Report No(s): JSC-1214; NASA-TM-109526; NONP-NASA-VT-93-190323; No Copyright; Avail: CASI: C01, DVD

This video takes a serious and humorous look at life in the low gravity environment of space flight. The video also includes onboard activities from Skylab to Space Shuttle missions.
CASI
Bioastronautics; Microgravity; Weightlessness

19940010925 NASA Johnson Space Center, Houston, TX, USA
STS-33 EVA prep and post with Gregory, Blaha, Carter, Thorton, and Musgrave in FFT
Oct 1, 1989; In English; 9 min. 5 sec. playing time, in color, with sound
Report No(s): JSC-1130; NASA-TM-109469; NONP-NASA-VT-93-190266; No Copyright; Avail: CASI: C01, DVD

This video shows the crew in the airlock of the FFT, talking with technicians about the extravehicular activity (EVA) equipment. Thornton and Carter put on EVA suits and enter the airlock as the other crew members help with checklists.
CASI
Extravehicular Activity; Spacecrews

19940010927 NASA Johnson Space Center, Houston, TX, USA
STS-33 crew post flight film
Feb 1, 1990; In English; 20 min. playing time, in color, with sound
Report No(s): JSC-1149R; NASA-TM-109470; NONP-NASA-VT-93-190267; No Copyright; Avail: CASI: C01, DVD

This video contains footage selected by the Commander and crew of the STS-33 DoD mission, including launch, limited onboard activities, and landing.
CASI
Space Shuttle Missions; Spacecrews

19940010930 NASA Johnson Space Center, Houston, TX, USA
STS-27 crew presentation clip
Jan 1, 1989; In English; 14 min. 15 sec. playing time, in color, with sound
Report No(s): JSC-1224R; NASA-TM-109551; NONP-NASA-VT-93-190349; No Copyright; Avail: CASI: C01, DVD
This video features scenes from this Department of Defense Space Shuttle Mission. Included are launch, landing, the crew playing weightless football and exercising, and food preparation on middeck.
CASI
Physical Exercise; Space Shuttle Missions; Space Transportation System Flights; Spacecraft Landing; Spacecraft Launching

19940010934 NASA Johnson Space Center, Houston, TX, USA
STS-26 missions highlight resource tape
Oct 1, 1988; In English; 57 min. playing time, in color, with sound
Report No(s): JSC-1076; NASA-TM-109559; NONP-NASA-VT-93-190357; No Copyright; Avail: CASI: C01, DVD
This video contains important visual events including launch, TDRS-C/IUS onboard crew activities and landing. Also includes air-to-ground transmission between ground and Mission Control.
CASI
Astronauts; Ground Based Control; Space Communication; Space Shuttle Missions; Spacecraft Landing; Spacecraft Launching; Spacecrews; TDR Satellites

19940010950 NASA Johnson Space Center, Houston, TX, USA
STS-30 onboard 16mm photography quick release
May 1, 1989; In English; 21 min. 35 sec. playing time, in color, with sound
Report No(s): JSC-CL-1229; NASA-TM-109579; NONP-NASA-VT-93-190377; No Copyright; Avail: CASI: C01, DVD
This video features scenes shot by the Space Shuttle crew of onboard activities including Magellan deploy, Earth views, payload bay views, and middeck views.
CASI
Crew Procedures (Inflight); Magellan Spacecraft (NASA); Payload Stations; Space Shuttle Orbiters

19940010965 NASA Johnson Space Center, Houston, TX, USA
STS-31 onboard 16mm photography quick release
May 1, 1990; In English; 30 min. playing time, in color, with sound
Report No(s): JSC-CL-1246; NASA-TM-109478; NONP-NASA-VT-93-190275; No Copyright; Avail: CASI: C01, DVD
This video features scenes shot by the crew of onboard activities including Hubble Space Telescope deploy, remote manipulator system (RMS) checkout, flight deck and middeck experiments, and Earth and payload bay views.
CASI
Crew Procedures (Inflight); Space Shuttle Missions; Spaceborne Experiments

19940010967 NASA Johnson Space Center, Houston, TX, USA
STS-31 mission highlights resource tape
Jun 1, 1990; In English; 56 min. playing time, in color, with sound
Report No(s): JSC-1168; NASA-TM-109479; NONP-NASA-VT-93-190276; No Copyright; Avail: CASI: C01, DVD
This video contains important visual events including launch, Hubble Space Telescope deployment, onboard crew activities, and landing. Air-to-ground transmission between crew and Mission Control is also included.
CASI
Crew Procedures (Inflight); Hubble Space Telescope; Space Shuttle Missions

19940010988 NASA Johnson Space Center, Houston, TX, USA
STS-36 crew presentation clip
Jul 1, 1990; In English; 20 min. playing time, in color, with sound
Report No(s): JSC-CL-1248; NASA-TM-109497; NONP-NASA-VT-93-190294; No Copyright; Avail: CASI: C01, DVD

This video features scenes from this Department of Defense Shuttle mission showing crew onboard activities.
CASI
Astronauts; Defense Program; Space Shuttle Missions; Space Transportation System Flights; Spacecrews

19940010991 NASA Johnson Space Center, Houston, TX, USA
STS-35 onboard photography quick release
Dec 1, 1990; In English; 25 min. playing time, in color, with sound
Report No(s): JSC-CL-1250; NASA-TM-109500; NONP-NASA-VT-93-190297; No Copyright; Avail: CASI: C01, DVD

This video features scenes shot by the crew of onboard activities including ASTRO-1 operation, middeck experiments, flight deck views, and earth and payload bay views.
CASI
Astro Missions (STS); Astronauts; Intravehicular Activity; Space Shuttle Missions; Space Shuttle Payloads; Spaceborne Photography

19940010992 NASA Johnson Space Center, Houston, TX, USA
STS-35 mission highlights resource tape
Feb 1, 1991; In English; 59 min. 27 sec. playing time, in color, with sound
Report No(s): JSC-1173; NASA-TM-109501; NONP-NASA-VT-93-190298; No Copyright; Avail: CASI: C01, DVD

This document contains video on launch, ASTRO-1 operations, onboard operations, crew activities, and landing. It also includes air-to-ground transmission between crew and Mission Control.
CASI
Astro Missions (STS); Astronauts; Ground-Air-Ground Communication; Intravehicular Activity; Space Shuttle Missions; Space Transportation System Flights; Spacecraft Communication; Spacecraft Landing

19940010993 NASA Johnson Space Center, Houston, TX, USA
Science operation in space: Lessons
JAN 1, 1988; In English; 32 min. playing time, in color, with sound
Report No(s): JSC-1047; NASA-TM-109502; NONP-NASA-VT-93-190299; No Copyright; Avail: CASI: C01, DVD

This program (conceived by a group of veteran Shuttle astronauts) shows prospective experimenters how they can better design their experiments for operation onboard Shuttle flights. Shuttle astronauts Dunbar, Seddon, Hoffman, Cleave, Ross, and ChangDiaz also show how crews live and work in space.
CASI
Astronauts; Experiment Design; Intravehicular Activity; Space Shuttle Payloads; Space Transportation System Flights; Spaceborne Experiments

19940010995 NASA Johnson Space Center, Houston, TX, USA
STS-27 crew deorbit prep in SMS with Gibson, Shepard, Mullane, Ross, and G. Gardner
May 1, 1988; In English; 5 min. playing time, in color, with sound
Report No(s): JSC-1054; NASA-TM-109518; NONP-NASA-VT-93-190315; No Copyright; Avail: CASI: C01, DVD

This video shows the crew training. Forward and aft flight deck views are provided.
CASI
Astronaut Training; Space Transportation System Flights; Spacecrews

19940011043 NASA Johnson Space Center, Houston, TX, USA
STS-41 post-flight press presentation
Nov 1, 1990; In English; 21 min. 36 sec. playing time, in color, with sound
Report No(s): JSC-1187; NASA-TM-109514; NONP-NASA-VT-93-190311; No Copyright; Avail: CASI: C01, DVD

This video contains footage selected and narrated by the crew. The footage covers the launch, the deployment of Ulysses, onboard crew activities, and the landing.
CASI
Deployment; Space Transportation System Flights; Ulysses Mission

19940011045 NASA Johnson Space Center, Houston, TX, USA
STS-41 onboard 16mm photography quick release
Oct 1, 1990; In English; 17 min. 34 sec. playing time, in color, with sound
Report No(s): JSC-CL-1255; NASA-TM-109515; NONP-NASA-VT-93-190312; No Copyright; Avail: CASI: C01, DVD
This video features scenes of onboard activities. The video was shot by the crew. The scenes include the following: Ulysses' deployment, middeck experiments, computer workstations, and Earth payload bay views.
CASI
Deployment; Space Transportation System Flights; Spacecrews; Ulysses Mission

19940011048 NASA Johnson Space Center, Houston, TX, USA
STS-41 mission highlights resource tape
Jan 1, 1991; In English; 54 min. 44 sec. playing time, in color, with sound
Report No(s): JSC-1188; NASA-TM-109516; NONP-NASA-VT-93-190313; No Copyright; Avail: CASI: C01, DVD
This video contains important visual events including launch, Ulysses' deployment, onboard crew activities, and landing. The video also includes air-to-ground transmission between the crew and Mission Control.
CASI
Deployment; Space Transportation System Flights; Spacecrews; Ulysses Mission

19940014447 NASA, Washington, DC, USA
Robotics
Aug 1, 1985; In English; 2 min. 51 sec. playing time, in color, with sound
Report No(s): ASR-238; NASA-TM-109351; NONP-NASA-VT-94-198198; No Copyright; Avail: CASI: C01, DVD
An overview of research being done into the use of robotic devices in space by MSFC is discussed. The video includes footage and explanations of robots being used to blast layers of thermal coating from the Space Shuttle's external tanks, the Shuttle's Remote Manipulator Arm, and animations of an Orbiting Maneuvering Vehicle to retrieve and repair satellites.
CASI
External Tanks; Remote Manipulator System; Robotics; Robots; Space Shuttles; Spacecraft Maintenance; Thermal Control Coatings

19940014481 NASA Marshall Space Flight Center, Huntsville, AL, USA
Shuttle-C, the future is now
Feb 1, 1989; In English; 7 min. 12 sec. playing time, in color, with sound
Report No(s): MSFC-14261; NASA-TM-109355; NONP-NASA-VT-94-198202; No Copyright; Avail: CASI: C01, DVD
This video details plans for Shuttle-C, an unmanned heavy launch vehicle to carry payloads into orbit. Computer animations depict the Shuttle-C, which uses the same recoverable external boosters, external fuel tank and main orbiter engines as the existing Space Shuttles, through liftoff and entry into orbit, where it progressively jettisons the cargo shroud, external fuel tank, and nose shroud. The video also shows computer simulations of a remotely controlled orbital maneuvering vehicle positioning preassembled components of a Space Station and delivering planetary probes and lunar exploration materials to orbit.
CASI
Computer Animation; Heavy Lift Launch Vehicles; Orbital Assembly; Orbital Maneuvering Vehicles; Shuttle Derived Vehicles; Space Exploration; Space Stations; Spacecraft Design

19940014482 NASA, Washington, DC, USA
Return to space
Aug 1, 1989; In English; 14 min. 30 sec. playing time, in color, with sound
Report No(s): ASR-247; NASA-TM-109356; NONP-NASA-VT-94-198203; No Copyright; Avail: CASI: C01, DVD

This video documents the preparations for Shuttle Flight STS-26 with Shuttle Discovery, NASA's return to manned space flight after the Challenger disaster. Footage and descriptions document such changes to the new Shuttle as new joints, improved insulation, and added O-rings to the solid rocket boosters; new safety hardware and procedures such as parachute and sidewire evacuations during liftoff, and new pressure suits; modified landing gear, brakes, and nose wheel steering, as well as a modified landing runway. Also profiled are the 5 member crew of all veteran Shuttle astronauts, the TDRS 3 Satellite to be released from the cargo bay in orbit, and 11 commercial and student experiments to be performed during the mission.
CASI
Discovery (Orbiter); Manned Space Flight; Space Shuttle Missions; Space Transportation System Flights

19940014598 NASA Marshall Space Flight Center, Huntsville, AL, USA
Pathfinder: Shuttle exhibit
Aug 1, 1988; In English; 1 min. 46 sec. playing time, in color, with sound
Report No(s): MSFC-13239; NASA-TM-109357; NONP-NASA-VT-94-198204; No Copyright; Avail: CASI: C01, DVD

This video introduces the Pathfinder Shuttle Exhibit, a joint project between the Marshall Space Flight Center and the State of Alabama's Space and Rocket Center in Huntsville. The exhibit features a never flown Shuttle vehicle, Pathfinder, that was used in early ground tests in the Shuttle Program, as well as an actual external fuel tank and set of booster rockets. The video includes footage of actual launches, the Pathfinder Shuttle Exhibit, and shots of the Space Camp at Alabama's Space and Rocket Center.
CASI
Museums; Space Shuttle Orbiters

19940029065 NASA Kennedy Space Center, Cocoa Beach, FL, USA
STS-59/SRL-1
Apr 20, 1994; In English; 58 min. playing time, in color, with sound
Report No(s): NASA-TM-109837; NONP-NASA-VT-94-12965; No Copyright; Avail: CASI: C01, DVD

This video covers the STS-59 mission. Video segments include breakfast, suit-up, departure, launch, on-orbit operations, and landing.
CASI
Astronaut Performance; Flight Operations; Space Shuttle Missions

19940029093 NASA Johnson Space Center, Houston, TX, USA
STS-57 post flight press conference
JAN 1, 1994; In English; 21 min. 45 sec. playing time, in color, with sound
Report No(s): NASA-TM-109838; NONP-NASA-VT-94-12966; No Copyright; Avail: CASI: C01, DVD

This video contains footage selected and narrated by crew members.
CASI
Space Shuttle Missions; Space Transportation System

19940029282 NASA, Washington, DC, USA
Shuttle 51L: Challenger
JAN 1, 1994; In English; 45 min. playing time, in color, with sound
Report No(s): NASA-TM-109835; NONP-NASA-VT-94-12963; No Copyright; Avail: CASI: C01, DVD

This video follows the pre-launch and launch of the Space Shuttle Challenger preceding the accident. It then details the accident investigation report.
CASI
Accident Investigation; Challenger (Orbiter); Space Shuttle Mission 51-L; Spacecraft Launching

19950004134 NASA Kennedy Space Center, Cocoa Beach, FL, USA
KSC technology: Automated orbiter window inspection system
Mar 30, 1990; In English; 2 min. 42 sec. playing time
Report No(s): NASA-TM-109889; NONP-NASA-VT-94-23138; No Copyright; Avail: CASI: C01, DVD

This video recording is a demonstration of the procedures for visual inspection of the six orbiter windows at the end of each flight.

KSC

Inspection; Quality Control

19950004153 NASA Lewis Research Center, Cleveland, OH, USA
Simulated Shuttle no. 4008
May 1, 1990; In English; 10 min. playing time, in color, with sound
Report No(s): NASA-TM-109931; NONP-NASA-VT-94-23168; No Copyright; Avail: CASI: C01, DVD

Review of the simulated shuttle program including the building of their buses into the shuttle and their trips. This is a cooperative school/community effort.

LeRC

Education; Space Shuttles

19950004322 NASA Johnson Space Center, Houston, TX, USA
STS-60 mission highlights resource tape
JAN 1, 1994; In English; 58 min. playing time, in color, with sound
Report No(s): NASA-TM-109942; NONP-NASA-VT-94-23622; No Copyright; Avail: CASI: C01, DVD

The important visual events of each mission including launch, onboard crew activities, and landing are depicted.

JSC

Space Shuttle Missions; Space Shuttle Payloads; Space Transportation System Flights; Spaceborne Experiments

19950004323 NASA Johnson Space Center, Houston, TX, USA
STS-62 mission highlights resource tape
JAN 1, 1994; In English; 54 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-109943; NONP-NASA-VT-94-23623; No Copyright; Avail: CASI: C01, DVD

The important visual events of each mission including launch, onboard crew activities, and landing are depicted.

JSC

Space Shuttle Missions; Space Shuttle Payloads; Space Transportation System Flights; Spaceborne Experiments

19950004324 NASA Johnson Space Center, Houston, TX, USA
STS-59 mission highlights resource tape
JAN 1, 1994; In English; 59 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-109945; NONP-NASA-VT-94-23625; No Copyright; Avail: CASI: C01, DVD

The important visual events of each mission including launch, onboard crew activities, and landing are depicted.

JSC

Space Shuttle Missions; Space Shuttle Payloads; Space Transportation System Flights; Spaceborne Experiments

19950006709 NASA Johnson Space Center, Houston, TX, USA
From undersea to outer space: The STS-40 jellyfish experiment
JAN 1, 1994; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-109958; NONP-NASA-VT-94-28236; No Copyright; Avail: CASI: C01, DVD

This is an educational production featuring ‘Ari’, animated jellyfish who recounts his journey into space. Jellyfish were flown aboard the shuttle to study the effects of microgravity on living organisms. Topics Ari explores are: microgravity, life sciences, similarities between jellyfish and humans, and the life cycle and anatomy of a jellyfish.

JSC

Gravitational Effects; Invertebrates; Microgravity

19950006717 NASA Johnson Space Center, Houston, TX, USA
STS-65 mission highlights resource tape
JAN 1, 1994; In English; 57 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-108589; NONP-NASA-VT-94-28238; No Copyright; Avail: CASI: C01, DVD

The important visual events of each mission including launch, onboard crew activities, and landing are depicted.
JSC
Space Shuttle Missions; Space Transportation System; Spacecraft Landing; Spacecraft Launching

19950006718 NASA Johnson Space Center, Houston, TX, USA
STS-68 post flight presentation
JAN 1, 1994; In English; 47 min. playing time, in color, with sound
Report No(s): NASA-TM-109959; NONP-NASA-VT-94-28239; No Copyright; Avail: CASI: C01, DVD

This contains mission footage selected by the STS-68 crew of pre-launch, launch, onboard activities and experiments, Space Radar Laboratory-2 (SRL-2), Get Away Special canisters (GAS cans), Earth views, and landing. Crew members provide descriptive voice-over narration of the scenes.
JSC
Get Away Specials (STS); Postflight Analysis; Space Shuttle Missions; Space Transportation System Flights

19950006719 NASA Johnson Space Center, Houston, TX, USA
STS-61 mission highlights resource tape
JAN 1, 1994; In English; 2 hr. 1 min. playing time, in color, with sound
Report No(s): NASA-TM-109963; NONP-NASA-VT-94-28240; No Copyright; Avail: CASI: C01, DVD

This contains important visual events including launch, Hubble Space Telescope (HST) capture, repair and re-deployment, onboard activities, earth views, and landing. Also included is the air-to-ground transmission between the crew and Mission Control.
JSC
Postflight Analysis; Space Shuttles; Space Transportation System; Space Transportation System Flights

19950006720 NASA Johnson Space Center, Houston, TX, USA
Memorial service for the mission 51-L crew (edited)
Jan 31, 1994; In English; 27 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-109900; NONP-NASA-VT-94-28241; No Copyright; Avail: CASI: C01, DVD

The original memorial service held at NASA JSC for the STS-51L Challenger crew who died onboard the Shuttle is presented. President Ronald Reagan conducts this briefing.
JSC
Challenger (Orbiter); Death; Space Shuttle Mission 51-L; Spacecrews

19950009485 NASA Johnson Space Center, Houston, TX, USA
STS-66 post flight presentation
JAN 1, 1994; In English; 40 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110077; NONP-NASA-VT-94-33203; No Copyright; Avail: CASI: C01, DVD

This video contains mission footage selected by the STS-66 crew of pre-launch, launch, onboard activities and experiments, ATLAS-3, CRISTA/SPAS, SSBUV/A, ESCAPE II, Earth views, and landing. Crew members provide descriptive voice-over narration of the scenes.
JSC
Postlaunch Reports; Space Transportation System Flights; Spaceborne Experiments; Spacecraft Launching

19950014696 NASA Johnson Space Center, Houston, TX, USA
STS 63 flight day 4 highlights/MIR-Shuttle rendezvous
Feb 5, 1995; In English; 1 hr. playing time, in color, with sound
Report No(s): NASA-TM-110512; NONP-NASA-VT-95-42156; No Copyright; Avail: CASI: C01, DVD

STS 63 Flight, day 4, the MIR-Shuttle rendezvous is highlighted in this video. The six-member team in the Shuttle are introduced and discuss their functions and tests for this day of the flight. There is actual footage of earth from space, of the MIR Space Station, a tour of the Shuttle cockpit, some footage from the MIR of the Space Shuttle, and footage from inside the MIR with the cosmonauts. Mission control communications with the Shuttle, communication between the Shuttle and MIR, and an historic communication between the Shuttle's astronauts and President Bill Clinton are included. President Clinton interviews each of the six-member team and discusses the upcoming space walk by Dr. Bernard Harris, the first black astronaut to walk in space. This video was recorded on February 6, 1995.
CASI
Advanced Launch System (STS); Earth Orbital Rendezvous; Mir Space Station; Mission Planning; Rendezvous Spacecraft; Space Shuttles; Space Transportation System Flights; Spacecraft Communication

19950015141 NASA Johnson Space Center, Houston, TX, USA
STS 63: Post flight presentation
Feb 27, 1995; In English; 42 min. 33 sec. playing time, in color, with sound
Report No(s): NASA-TM-110514; NONP-NASA-VT-95-42494; No Copyright; Avail: CASI: C01, DVD

At a post flight conference, Captain Jim Wetherbee, of STS Flight 63, introduces each of the other members of the STS 63 crew (Eileen Collins, Pilot; Dr. Bernard Harris, Payload Commander; Dr. Michael Foale, Mission Specialist from England; Dr. Janice Voss, Misssion Specialist; and Colonel Vladimir Titor, Misssion Specialist from Russia. A short biography of each member and a brief description of their assignment during this mission is given. A film was shown that included the preflight suit-up, a view of the launch site, the actual night launch, a tour of the Space Shuttle and several of the experiment areas, several views of earth and the MIR Space Station and cosmonauts, the MIR-Space Shuttle rendezvous, the deployment of the Spartan Ultraviolet Telescope, Foale and Harris's EVA and space walk, the retrieval of Spartan, and the night entry home, including the landing. Several spaceborne experiments were introduced: the radiation monitoring experiment, environment monitoring experiment, solid surface combustion experiment, and protein crystal growth and plant growth experiments. This conference ended with still, color pictures, taken by the astronauts during the entire STS 63 flight, being shown.
CASI
Earth Orbital Rendezvous; Extravehicular Activity; Mir Space Station; Night Flights (Aircraft); Payload Deployment & Retrieval System; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System; Spaceborne Experiments

19950015878 NASA Johnson Space Center, Houston, TX, USA
STS Flight 64 mission highlights
Feb 21, 1995; In English; 1 hr. 4 min. 16 sec. playing time, in color, with sound
Report No(s): NASA-TM-110515; NONP-NASA-VT-95-42495; No Copyright; Avail: CASI: C01, DVD

The pre-launch, launch, in-flight, and landing activities of STS Flight 64 are highlighted in this video. Footage of the astronauts (Richard, Hammond, Lee, Helms, Meade, and Linenger) suiting up, the payload activities with the Shuttle arm, the deployment of the Spartan satellite, the untethered spacewalk of Lee and other in-space experiments with Lee and Meade (including a body roll), the pre-landing shots and actual landing, and some footage of the Mission Operations Control Room watching the Space Shuttle maneuvers are included.
CASI
Astronaut Locomotion; Extravehicular Activity; Liftoff (Launching); Payload Deployment & Retrieval System; Roll; Space Shuttle Missions; Space Shuttle Payloads; Space Transportation System; Spaceborne Experiments; Spacecraft Landing

19950016855 NASA Johnson Space Center, Houston, TX, USA
Toys in space, 2
Herbert, Dexter, editor; Jun 24, 1993; In English; 37 min. 53 sec. playing time, in color, with sound
Report No(s): NASA-TM-110541; NONP-NASA-VT-95-43944; No Copyright; Avail: CASI: C01, DVD

In this educational video from the 'Liftoff to Learning' series, astronauts from the STS-54 Mission (Mario Runco, John Casper, Don McMonagle, Susan Helms, and Greg Harbaugh) explain how microgravity and weightlessness in space affects motion by using both mechanical and nonmechanical toys (gravitrons, slinkys, dart boards, magnetic marbles, and others). The gravitational effects on rotation, force, acceleration, magnetism, magnetic fields, center of axis, and velocity are actively

demonstrated using these toys through experiments onboard the STS-54 Mission flight as a part of their spaceborne experiment payload.
CASI
Education; Gravitational Effects; Mechanical Devices; Microgravity; Payloads; Space Shuttle Missions; Space Shuttles; Space Transportation System Flights; Spaceborne Experiments; Weightlessness

19950017244 NASA Johnson Space Center, Houston, TX, USA
Endeavor: Now and then
Sep 22, 1992; In English; 19 min. 5 sec. playing time, in color, with sound
Report No(s): NASA-TM-110539; NONP-NASA-VT-95-43942; No Copyright; Avail: CASI: C01, DVD

In this educational 'Liftoff to Learning' video series, astronauts from STS-49 Space Shuttle Mission (Thomas Akers, Bruce Melnick, Pierre Thuot, Kathy Thorton, Kevin Chilton, and Richard Hieb) compare their mission aboard the Space Shuttle Endeavor and their shuttle with its namesake, the ship 'Endeavor', commanded by Captain James Cook of England in the late 1700's. Using historical paintings, drawings, and computer graphics, Cook's Endeavor is brought to life. Its voyage path, problems, biological experiments, and discoveries are shown and compared to the modern-day Endeavor, its mission and experiments. The Space Shuttle Endeavor was named in 1988, through a nation-wide school contest. It is the fifth Space Shuttle to be built and employs new technology in its design, for example, its drag shoot for shuttle landings. One part of the STS-49 Mission was the retrieval of the Intel satellite.
CASI
Aerospace Technology Transfer; Computer Animation; Computer Graphics; Histories; INTELSAT Satellites; Payload Retrieval (STS); Ships; Spaceborne Experiments; Technology Utilization

19950017245 NASA Johnson Space Center, Houston, TX, USA
All systems go!
Sep 2, 1992; In English; 33 min. 34 sec. playing time, in color, with sound
Report No(s): NASA-TM-110542; NONP-NASA-VT-95-43945; No Copyright; Avail: CASI: C01, DVD

In this educational 'Liftoff to Learning' video series, astronauts from STS-40 Space Shuttle Mission (F. Drew Gaffney, Millie Hughes-Fulford, Rhea Seddon, James Bagia, Bryan O'Connor, Tamara Jernigan, and Sidney Gutierrez) show, using footage and highlights from their mission, how microgravity causes changes in the human body. The STS-40 was a mission of spaceborne experiments concerned with the physiological, biological, and chemical changes that occur in the human body as a result of microgravity. Different experiments are shown and their significance are explained.
CASI
Aerospace Medicine; Biological Effects; Chemical Reactions; Flight Stress (Biology); Gravitational Physiology; Human Body; Microgravity; Pathological Effects; Physiological Responses; Space Shuttle Missions; Spaceborne Experiments

19950017775 NASA Johnson Space Center, Houston, TX, USA
Go for EVA
Apr 5, 1995; In English; 13 min. 48 sec. playing time, in color, with sound
Report No(s): NASA-TM-110537; NONP-NASA-VT-95-43940; No Copyright; Avail: CASI: C01, DVD

In this educational video series, 'Liftoff to Learning', astronauts from the STS-37 Space Shuttle Mission (Jay Apt, Jerry Ross, Ken Cameron, Steve Nagel, and Linda Godwin) show what EVA (extravehicular activity) means, talk about the history and design of the space suits and why they are designed the way they are, describe different ways they are used (payload work, testing and maintenance of equipment, space environment experiments) in EVA work, and briefly discuss the future applications of the space suits. Computer graphics and animation is included.
CASI
Aerospace Environments; Equipment Specifications; Extravehicular Mobility Units; Space Exploration; Space Shuttle Payloads; Spaceborne Experiments; Spacecraft Maintenance; Structural Design; Umbilical Connectors; Weightlessness

19950017777 NASA Johnson Space Center, Houston, TX, USA
STS-66 mission highlights resource tape
JAN 1, 1995; In English; 54 min. playing time, in color, with sound
Report No(s): NASA-TM-110550; VJSC-1448; NONP-NASA-VT-95-44679; No Copyright; Avail: CASI: C01, DVD

This video contains the mission highlights of the STS-66 Space Shuttle Atlantis Mission in November 1994. Astronauts included: Don McMonagle (Mission Commander), Kurt Brown, Ellen Ochoa (Payload Commander), Joe Tanner, Scott Parazynski, and Jean-Francois Clervoy (collaborating French astronaut). Footage includes: pre-launch suitup, entering Space Shuttle, countdown and launching of Shuttle, EVA activities (ATLAS-3, CRISTA/SPAS, SSBUV/A, ESCAPE-2), on-board experiments dealing with microgravity and its effects, protein crystal growth experiments, daily living and sleeping compartment footage, earthviews of various meteorological processes (dust storms, cloud cover, ocean storms), pre-landing and land footage (both from inside the Shuttle and from outside with long range cameras), and tracking and landing shots from inside Mission Control Center. Included is air-to-ground communication between Mission Control and the Shuttle. This Shuttle was the last launch of 1994.
CASI
Advanced Technology Laboratory; Descent; Earth Orbits; Extravehicular Activity; Microgravity; Space Shuttle Missions; Space Shuttles; Space Transportation System Flights; Spaceborne Experiments; Spaceborne Telescopes; Spacecraft Launching; Spacecraft Orbits

19950017778 NASA Johnson Space Center, Houston, TX, USA
STS-67 post flight presentation
Apr 3, 1995; In English; 41 min. 15 sec. playing time, in color, with sound
Report No(s): NASA-TM-110552; JSC-1477; NONP-NASA-VT-95-45307; No Copyright; Avail: CASI: C01, DVD

This video is the post-flight presentation by the astronauts of the STS-67 Space Shuttle Mission. The astronauts were: Steve Oswald (Mission Commander), Bill Gregory (Shuttle Pilot), John Grunsfeld (Mission Specialist), Sam Durrance (Payload Specialist), Ron Parise (Payload Specialist), and Tammy Jernigan (Payload Commander). Footage includes: pre-launch suitup and launch (liftoff), the deployment of the telescope package payload (Hopkins UV telescope, Wisconsin UV polarimeter, and Astrostar Tracker) for their astronomical observations of different stellar objects, inside Shuttle shots of data collection stations, protein crystal growth experiments, medical BSO of head and eye functions in microgravity environment, storm activity over the USA and other Earth observation shots, Mid-deck Act Control Experiments, school-Shuttle direct radio communication, and descent and landing footage. This launch was a night launch and the flight was a 17 day flight (extended two days from original flight plan).
CASI
Aerospace Medicine; Earth Observations (From Space); Gravitational Physiology; Payload Deployment & Retrieval System; Physiological Tests; Polarimeters; Radio Communication; Space Shuttle Missions; Space Shuttle Payloads; Space Transportation System Flights; Spaceborne Astronomy; Spaceborne Experiments; Ultraviolet Telescopes

19950017795 NASA Johnson Space Center, Houston, TX, USA
Apollo 13: Houston, we’ve got a problem
Apr 10, 1991; In English; 28 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110551; JSC-548; NONP-NASA-VT-95-44678; No Copyright; Avail: CASI: C01, DVD

This video contains historical footage of the flight of Apollo-13, the fifth Lunar Mission and the third spacecraft that was to land on the Moon. Apollo-13’s launch date was April 11, 1970. On the 13th of April, after docking with the Lunar Module, the astronauts, Jim Lovell, Fred Haise, and Jack Swiggert, discovered that their oxygen tanks had ruptured and ended up entering and returning to Earth in the Lunar Module instead of the Command Module. There is footage of inside module and Mission Control shots, personal commentary by the astronauts concerning the problems as they developed, national news footage and commentary, and a post-flight Presidential Address by President Richard Nixon. Film footage of the approach to the Moon and departing from Earth, and air-to-ground communication with Mission Control is included.
CASI
Apollo 13 Flight; Command Modules; Ground Support Systems; Histories; Lunar Exploration; Lunar Flight; Lunar Module; Mission Planning; Space Missions

19950019454 NASA Johnson Space Center, Houston, TX, USA
STS-63 mission highlights resource tape
JAN 1, 1995; In English; 1 hr. playing time, in color, with sound
Report No(s): NASA-TM-110562; JSC-1472; NONP-NASA-VT-95-45997; No Copyright; Avail: CASI: C01, DVD

This video (JSC1472) contains important visual events including launch, SPARTAN 204, SPACEHAB-03,

CGP/ODERACS, and the rendezvous with the MIR Space Station, along with onboard activities, and landing. Also included are air-to-ground transmission between the crew and Mission, and various earthviews.
JSC
Space Shuttles; Space Transportation System Flights; Spacecraft Environments; Spacecraft Launching

19950022294 NASA Johnson Space Center, Houston, TX, USA
STS-67 mission highlights resource tape
Welch, Chuck, editor; May 10, 1995; In English; 57 min. playing time, in color, with sound
Report No(s): NASA-TM-110530; JSC-1478; NONP-NASA-VT-95-50092; No Copyright; Avail: CASI: C01, DVD

The Space Shuttle Mission, STS-67, is highlighted in this video. Flight crew (Stephen S. Oswald (Commander), William G. Gregory (Pilot), Tamara E. Jernigan, Wendy B. Lawrence, John M. Grunfeld (Mission Specialists), Samuel T. Durrance, and Ronald A. Parise (Payload Specialists)) prelaunch and launch activities, EVA activities with payload deployment and retrieval (ASTRO-2 and WUPPE (Wisconsin Ultraviolet Photo Polarimeter Experiment)), spaceborne experiments (astronomical observation and data collection, protein crystal growth, and human physiological processes), and pre-reentry activities are shown. There are astronomical telescopic observation from the two telescopes in the payload, the Hopkins Ultraviolet Telescope and the Ultraviolet Imaging Telescope, of Io and of globular clusters, and their emission spectra is collected via a spectrometer. Earth view film and photography is shown, which includes lightning on terrestrial surfaces, cyclone activity, and cloud cover.
CASI
Astronomical Polarimetry; Astronomical Spectroscopy; Earth Observations (From Space); Globular Clusters; Imaging Techniques; Io; Space Shuttle Missions; Space Shuttle Payloads; Space Transportation System Flights; Spaceborne Astronomy; Spaceborne Experiments; Ultraviolet Telescopes

19950023533 NASA Johnson Space Center, Houston, TX, USA
STS-71 Shuttle/Mir flight: Day 1
Jun 30, 1995; In English; 15 min. 45 sec. playing time, in color, with sound
Report No(s): NASA-TM-110744; BRF1343A; NONP-NASA-VT-95-56567; No Copyright; Avail: CASI: C01, DVD

The first day of the STS-71 flight of the Space Shuttle Atlantis is contained in this video. This mission highlights the first U.S. docking with the Mir Space Station. The scope of this part of the STS-71 mission is to drop off and pickup two cosmonauts, and to pickup one American astronaut who has been living aboard the Mir Station for several months. The STS-71 flight crew consists of: Atlantis Mission Specialist Gregory Harbaugh; Ellen Baker, Flight Commander Robert Gibson; Russian cosmonaut Anatoly Solovyen; Vladimir Dezhuroz; Gennady Strekalov; and Dr. Norman Thagard. Flight footage contains prelaunch activities.
Author
Mir Space Station; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System Flights; Spacecraft Docking; Spacecraft Launching

19950023534 NASA Johnson Space Center, Houston, TX, USA
STS-71 Shuttle/Mir flight: Day 2
Jun 30, 1995; In English; 20 min. 45 sec. playing time, in color, with sound
Report No(s): NASA-TM-110745; BRF1343B; NONP-NASA-VT-95-56568; No Copyright; Avail: CASI: C01, DVD

The second day of the STS-71 flight of the Space Shuttle Atlantis is contained in this video. Flight footage contains launch, and orbital activities.
Author
Mir Space Station; Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights

19950023535 NASA Johnson Space Center, Houston, TX, USA
STS-71 Shuttle/Mir flight: Day 3
Jun 30, 1995; In English; 32 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110746; BRF1343C; NONP-NASA-VT-95-56569; No Copyright; Avail: CASI: C01, DVD

The third day of the STS-71 flight of the Space Shuttle Atlantis is contained in this video. Flight footage contains earth

views from space, and views of Mir Space Station taken from various angles.
Author
Earth Observations (From Space); Earth Orbits; Mir Space Station; Space Shuttle Missions; Space Shuttles; Space Transportation System Flights

19950023536 NASA Johnson Space Center, Houston, TX, USA
STS-71 Shuttle/Mir flight: Day 4
Jun 30, 1995; In English; 29 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110747; BRF1343D; NONP-NASA-VT-95-56570; No Copyright; Avail: CASI: C01, DVD

Day 4 of the STS-71 flight Space Shuttle Atlantis mission is highlighted in this video. During this segment of the mission the Space Station is docked with the Mir Space Station. There are interviews with the astronauts by Vice President Al Gore.
Author
Ground-Air-Ground Communication; Mir Space Station; Space Shuttle Missions; Space Stations; Space Transportation System Flights; Spacecraft Communication; Spacecraft Docking

19950023537 NASA Johnson Space Center, Houston, TX, USA
STS-71 Shuttle/Mir flight: Day 5
Jun 30, 1995; In English; 22 min. playing time, in color, with sound
Report No(s): NASA-TM-110748; BRF1343E; NONP-NASA-VT-95-56571; No Copyright; Avail: CASI: C01, DVD

Day 5 of the STS-71 flight Space Shuttle Atlantis mission is highlighted in this video. During this segment of the mission the Space Station is docked with the Mir Space Station and they are orbiting the earth together. There is footage of the astronauts performing physiological tests inside the Shuttle.
Author
Earth Orbits; Mir Space Station; Space Shuttle Missions; Space Shuttles; Space Transportation System Flights; Spacecraft Docking

19950023538 NASA Johnson Space Center, Houston, TX, USA
STS-71 Shuttle/Mir flight: Day 6
Jun 30, 1995; In English; 27 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110749; BRF1343F; NONP-NASA-VT-95-56572; No Copyright; Avail: CASI: C01, DVD

Day 6 of the STS-71 flight Space Shuttle Atlantis mission is highlighted in this video. During this segment of the mission the Space Station is docked with the Mir Space Station and they are orbiting the earth together. Also contained are views of the orbiter docking system and brief views of earth.
Author
Earth Observations (From Space); Earth Orbits; Mir Space Station; Multiple Docking Adapters; Space Shuttle Missions; Space Shuttles; Space Transportation System Flights; Spacecraft Docking

19950023539 NASA Johnson Space Center, Houston, TX, USA
STS-71 Shuttle/Mir flight: Day 7
Jul 3, 1995; In English; 29 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110750; BRF1343G; NONP-NASA-VT-95-56573; No Copyright; Avail: CASI: C01, DVD

Day 7 of the STS-71 mission are featured in this video, a continuation from day 1-6, this video includes live footage onboard the STS-71 Space Station Atlantis and the Mir Space Station. Astronaut, Dr. Norman Thagard, after living in space for 3 months onboard the Mir Space Station, joins the crew of Atlantis for his trip back to earth. Live interviews are conducted with the crew of Atlantis.
Author
Earth Orbits; Ground-Air-Ground Communication; Mir Space Station; Space Shuttle Missions; Space Shuttles; Space Transportation System Flights; Spacecraft Communication; Spacecraft Docking

19950023540 NASA Johnson Space Center, Houston, TX, USA
STS-71 Shuttle/Mir flight: Day 8
Jul 3, 1995; In English; 17 min. 45 sec. playing time, in color, with sound
Report No(s): NASA-TM-110751; BRF1343H; NONP-NASA-VT-95-56574; No Copyright; Avail: CASI: C01, DVD

Day 8 of the STS-71 mission are featured in this video, a continuation from days 1-7, this video includes live footage onboard the STS-71 Space Shuttle Atlantis and the Mir Space Station. Live interviews are conducted with the crew of Atlantis. Views are shown of the Mir Space Station from various angles.
Author
Earth Orbits; Ground-Air-Ground Communication; Mir Space Station; Space Shuttle Missions; Space Shuttles; Space Transportation System Flights; Spacecraft Communication; Spacecraft Docking

19950023541 NASA Johnson Space Center, Houston, TX, USA
STS-71 Shuttle/Mir flight: Day 9
Jul 3, 1995; In English; 17 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110752; BRF1343I; NONP-NASA-VT-95-56575; No Copyright; Avail: CASI: C01, DVD

Day 9 of the STS-71 mission are featured in this video, a continuation from days 1-8, this video includes live footage onboard the STS-71 Space Shuttle Atlantis and the Mir Space Station. Views are shown of the Mir Space Station from various angles and its earth orbit after disconnection from Atlantis.
Author
Flight Operations; Mir Space Station; Space Shuttle Missions; Space Shuttles; Space Transportation System Flights

19950023542 NASA Johnson Space Center, Houston, TX, USA
STS-71 Shuttle/Mir flight: Day 10
Jul 6, 1995; In English; 22 min. playing time, in color, with sound
Report No(s): NASA-TM-110753; BRF1343J; NONP-NASA-VT-95-56623; No Copyright; Avail: CASI: C01, DVD

Day 10, the last day of the STS-71 Space Shuttle mission, is featured in this video. There is live footage from onboard the shuttle and interviews with the Shuttle's astronauts. Also, some earth view footage from the Shuttle is included.
Author
Earth Orbits; Flight Operations; Mir Space Station; Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spacecraft Landing

19950024431 NASA Johnson Space Center, Houston, TX, USA
STS-71 post flight presentation
Jul 18, 1995; In English; 31 min. 25 sec. playing time, in color, with sound
Report No(s): NASA-TM-110658; JSC-1510; NONP-NASA-VT-95-59071; No Copyright; Avail: CASI: C01, DVD

The post flight presentation for the STS-71 Space Shuttle Atlantis Mission is featured on this video, with astronauts Gibson, Precourt, Baker, Harbough, Dunbar, Strekalov, Dezhurov, and Thagard, present for the press conference. They showed film footage and photographic slides of various pre-launch and launch activities, and onboard Shuttle activities and explained each of the different operations from the footage.
CASI
Cosmonauts; Earth Orbital Rendezvous; Mir Space Station; Prelaunch Tests; Space Shuttle Missions; Space Shuttle Payloads; Space Transportation System Flights; Spacecraft Launching

19950024452 NASA Johnson Space Center, Houston, TX, USA
STS-70 flight: Day 8
Jul 20, 1995; In English; 21 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110666; BRF1359H; NONP-NASA-VT-95-59164; No Copyright; Avail: CASI: C01, DVD

The eighth day of the STS-70 Space Shuttle Discovery mission is featured on this video. The crew is interviewed in orbit via satellite regarding their personal opinions about their mission before they return to Earth.
CASI
Astronauts; Discovery (Orbiter); Space Shuttle Missions; Space Shuttles; Space Transportation System Flights

19950024453 NASA Johnson Space Center, Houston, TX, USA
STS-70 flight: Day 7
Jul 19, 1995; In English; 14 min. playing time, in color, with sound
Report No(s): NASA-TM-110665; BRF1359G; NONP-NASA-VT-95-59165; No Copyright; Avail: CASI: C01, DVD

The seventh day of the STS-70 Space Shuttle Discovery mission is featured on this video. The astronauts obtained a successful alignment of the Hercules geo-locating camera and evaluated the manual setup procedures for the rotating wall Bioreactor. Specialist Don Thomas activated and deactivated the Microencapsulation in Space experiment, using a device that produces a timed-release of an antibiotic medication in a weightlessness environment. The Discovery crew begins to wrap up their experiments after a week of gathering data, ranging from observations of Earth's surface and atmosphere to biological studies. There are several minutes of Shuttle observations of Earth included.
CASI
Bioreactors; Cameras; Discovery (Orbiter); Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System Flights; Spaceborne Experiments

19950024454 NASA Johnson Space Center, Houston, TX, USA
STS-70 flight: Day 6
Jul 18, 1995; In English; 31 min. playing time, in color, with sound
Report No(s): NASA-TM-110664; BRF1359F; NONP-NASA-VT-95-59166; No Copyright; Avail: CASI: C01, DVD

The sixth day of the STS-70 Space Shuttle Discovery mission is featured on this video. During another trouble-free day, the crew again performed a variety of experiments ranging from optical studies to biological investigations. One such biological experiment showed orange colon cancer cells coalescing into globules. Using the Hercules Camera, the crew shot film footage of the Earth's surface and during the Windex experiment, several views of the Shuttle were shown.
CASI
Discovery (Orbiter); Earth Observations (From Space); Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System Flights; Spaceborne Experiments

19950024455 NASA Johnson Space Center, Houston, TX, USA
STS-70 flight: Day 5
Jul 17, 1995; In English; 25 min. 45 sec. playing time, in color, with sound
Report No(s): NASA-TM-110663; BRF1359E; NONP-NASA-VT-95-59167; No Copyright; Avail: CASI: C01, DVD

The fifth day of the STS-70 Space Shuttle Discovery mission is contained on this video. The crew continues working on experiments, such as the Space Tissue Loss Analysis and the Bioreactor Development System. CNN reporter, John Holliman, interviewed the flight crew and the crew also answered questions posed by Internet users while on NASA's Shuttle Web. There are brief views of Earth's surface included.
CASI
Discovery (Orbiter); Flight Crews; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System Flights; Spaceborne Experiments

19950024456 NASA Johnson Space Center, Houston, TX, USA
STS-70 flight: Day 4
Jul 16, 1995; In English; 30 min. playing time, in color, with sound
Report No(s): NASA-TM-110662; BRF1359D; NONP-NASA-VT-95-59168; No Copyright; Avail: CASI: C01, DVD

The fourth day of STS-70 mission of Space Shuttle Discovery is contained on this video. With the spacecraft continuing to perform flawlessly, Discovery's crew begins work with various experiments, ranging from biological studies to use of earth-observing cameras. The crew held a press conference via satellite link and answered questions from reporters in Florida and Ohio.
CASI
Discovery (Orbiter); Satellite Communication; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System Flights; Spaceborne Experiments

19950024457 NASA Johnson Space Center, Houston, TX, USA
STS-70 flight: Day 3
Jul 15, 1995; In English; 30 min. playing time, in color, with sound
Report No(s): NASA-TM-110661; BRF1359C; NONP-NASA-VT-95-59169; No Copyright; Avail: CASI: C01, DVD

The third day of the STS-70 mission of Space Shuttle Discovery is contained on this video. Astronauts Kregal and Thomas begin the day by working with the Hercules camera, which will record pinpoint data on the surface location of Earth observation imagery. Other work includes operations with an experiment that gauges astronauts' reflexes and hand-eye coordination. During the day, the crew spoke with World War 2 veteran, Harland Claussen,and ABC's Mike and Maty Show and the Toledo Blade newspaper (Toledo, Ohio) interviewed the astronauts via satellite link.
CASI
Discovery (Orbiter); Earth Observations (From Space); Satellite Communication; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments

19950024458 NASA Johnson Space Center, Houston, TX, USA
STS-70 flight: Day 2
Jul 14, 1995; In English; 24 min. playing time, in color, with sound
Report No(s): NASA-TM-110660; BRF1359B; NONP-NASA-VT-95-59170; No Copyright; Avail: CASI: C01, DVD

The second day of STS-70 Space Shuttle Discovery mission is contained on this video. The crew is shown onboard the Shuttle working on a variety of secondary experiments. These range from the Hercules camera, which imprints the latitude and longitude of areas photographed on Earth, to the Windex, which studies of the glow created as the Shuttle's surfaces interact with atomic oxygen in low Earth orbits. Also featured are astronauts Henricks, Kregal, and Weber answering questions from the general public via use of The New York Times On-Line Services.
CASI
Discovery (Orbiter); Earth Observations (From Space); Satellite Communication; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments

19950024459 NASA Johnson Space Center, Houston, TX, USA
STS-70 flight: Day 1
Jul 13, 1995; In English; 29 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110659; BRF1359A; NONP-NASA-VT-95-59171; No Copyright; Avail: CASI: C01, DVD

The first day of the STS-70 flight of the Space Shuttle Discovery is contained on this video. This mission highlights the deploy of NASA's communications satellite, the sixth and last such satellite to be deployed from a space shuttle. The STS-70 crew consists of Commander Tom Henricke, Pilot Kevin Kregel, and Mission Specialists Don Thomas, Nancy Currie, and Mary Ellen Weber. Flight footage contains prelaunch and launch activities.
CASI
Discovery (Orbiter); Payload Delivery (STS); Prelaunch Summaries; Space Shuttle Missions; Space Shuttle Payloads; Space Transportation System Flights; Spacecraft Launching

19950026118 NASA Johnson Space Center, Houston, TX, USA
Liftoff to learning: Assignment space
Mar 27, 1995; In English; 16 min. 05 sec. playing time, in color, with sound
Report No(s): NASA-TM-110820; NAS 1.15:110820; No Copyright; Avail: CASI: C01, DVD

The crew of the STS-58 Space Shuttle Columbia -- Commander John Blaha, Pilot Richard Searfoss, Payload Commander Rhea Seddon, Mission Specialist Shannon Lucid, Mission Specialist David Wolf, and Payload Specialist William McArthur host this educational video (part of the Liftoff to Learning series). The Astronauts help students to understand the importance of safety procedures on Earth as well as in space. They also discuss the effects of microgravity on various experiments in space.
CASI
Astronauts; Columbia (Orbiter); Education; Space Shuttles; Students

19950027307 EVKO Productions, Inc., Alexandria, VA, USA
The Space Shuttle: America's team reaching for the future
JAN 1, 1995; In English; 23 min. 19 sec. playing time, in color, with sound
Report No(s): NASA-CR-199222; NONP-NASA-VT-95-63906; No Copyright; Avail: CASI: C01, DVD

This video features the different NASA research centers and their contribution toward NASA's space program. It includes the following research centers: NASA headquarters, Ames Research Center, Goddard Flight Research Center, Jet Propulsion Laboratory, Johnson Space Flight Center, Kennedy Space Flight Center, Langley Research Center, Lewis Research Center, and Marshall Space Flight Center.
CASI
NASA Space Programs; Research Facilities; Space Shuttles

19950027859 NASA Johnson Space Center, Houston, TX, USA
STS-42 mission highlights resource tape. Part 1 of 2
JAN 1, 1992; In English; 44 min. playing time, in color, with sound
Report No(s): NASA-TM-110838; VJSC-1246-PT-1; NONP-NASA-VT-95-63905; No Copyright; Avail: CASI: C01, DVD

The mission of STS-42, the first International Microgravity Laboratory (IML-1), is highlighted. The main purpose of this seven-member crews (including Payload specialist Raborto Bondar from Canada and Payload specialist Ulf D. Merbold from Germany) space shuttle was to perform different experiments at microgravity environment. The experiments were focussed on the following two major study areas: (1) life sciences (biorack, biostack, space physiology, mental workload and performance, Microgravity vestibular investigations, etc.); and (2) material sciences (critical point facility, cryostat, fluid experiment system, mercury lodide crystal growth and vapor crystal growth systems). Cargo bay and middeck experiments; earth views (Quebec, Manicougan Reservoir, St. Lawrence River, and Mountain ranges);and orbiter activities are also included.
CASI
Aerospace Medicine; Experimentation; Life Sciences; Microgravity; Space Shuttles; Space Transportation System

19950027860 NASA Johnson Space Center, Houston, TX, USA
STS-42 mission highlights resource tape. Part 2 of 2
JAN 1, 1992; In English; 44 min. playing time, in color, with sound
Report No(s): NASA-TM-110840; VJSC-1246-PT-2; NONP-NASA-VT-95-64175; No Copyright; Avail: CASI: C01, DVD

This second part of the STS-42 mission highlights resource tape presents the special events that had happened during the 8 days, 1 hour, 14 minutes, and 45 seconds mission duration. These special events include: phone calls from President Bush, German Officials, and Canadian Officials; special appearance in Super Bowl pre-game events; and in-flight press conference.
CASI
Experimentation; Life Sciences; Microgravity; Space Transportation System; Spacecrews; Spacelab

19960000165 NASA, Washington, DC, USA
STS-43 post flight press conference
JAN 1, 1991; In English; 30 min. 15 sec. playing time, in color, with sound
Report No(s): NASA-TM-110844; JSC-1223; NONP-NASA-VT-95-65004; No Copyright; Avail: CASI: C01, DVD

The flight crew (Blaha, Baker, Low, Adamson, and Lucid) present and discuss their STS-43 Space Shuttle Mission in this press conference video. This mission was the first flight to deploy the Tracking Data and Relay Satellite (TDRS), the primary payload. A large number of secondary payload experiments were performed. The included: several cell tissue growth and enzyme analysis experiments; a Lower Body Negative Pressure Experiment; optic coupling and flame front propagation/combustion physics experiments; The Space Station Heat Pipe Advanced Radiator Experiment (SHARE) for the Space Station; a crystal control device evaluation; a software and hardware systems checkout for the Shuttle; some flight tests of the new orbiter auto-pilot system; some materials tests on polymer membranes; the Zero Gravity physics experiments; and

the Space Shuttle Backscatter Ultraviolet Experiment. Earth views included: the Kuwait oil fires; cloud cover; and B/W lightning footage.
CASI
Checkout; Combustion Physics; Deployment; Earth Observations (From Space); Flight Crews; Flight Tests; Materials Tests; Physiological Tests; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System Flights; Spaceborne Experiments; TDR Satellites

19960000166 NASA, Washington, DC, USA
STS-70 post flight presentation
Peterson, Glen, editor; Aug 1, 1995; In English; 32 min. 21 sec. playing time, in color, with sound
Report No(s): NASA-TM-110845; JSC-1513; NONP-NASA-VT-95-65005; No Copyright; Avail: CASI: C01, DVD

In this post-flight overview, the flight crew of the STS-70 mission, Tom Hendricks (Cmd.), Kevin Kregal (Pilot), Major Nancy Currie (MS), Dr. Mary Ellen Weber (MS), and Dr. Don Thomas (MS), discuss their mission and accompanying experiments. Pre-flight, launch, and orbital footage is followed by the in-orbit deployment of the Tracking and Data Relay Satellite (TDRS) and a discussion of the following spaceborne experiments: a microgravity bioreactor experiment to grow 3D body-like tissue; pregnant rat muscular changes in microgravity; embryonic development in microgravity; Shuttle Amateur Radio Experiment (SAREX); terrain surface imagery using the HERCULES camera; and a range of other physiological tests, including an eye and vision test. Views of Earth include: tropical storm Chantal; the Nile River and Red Sea; lightning over Brazil. A three planet view (Earth, Mars, and Venus) was taken right before sunrise. The end footage shows shuttle pre-landing checkout, entry, and landing, along with a slide presentation of the flight.
CASI
Atmospheric Entry; Deployment; Earth Observations (From Space); Flight Crews; Microgravity; Physiological Tests; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System Flights; Spaceborne Experiments; TDR Satellites

19960000167 NASA, Washington, DC, USA
STS-7 launch and land
Aug 2, 1983; In English; 55 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110846; NO-134(18); NONP-NASA-VT-95-65006; No Copyright; Avail: CASI: C01, DVD

The prelaunch, launch, and landing activities of the STS-7 Space Shuttle mission are highlighted in this video, with brief footage of the deployment of the Shuttle Pallet Satellite (SPAS). The flight crew consisted of: Cmdr. Bob Crippen, Pilot Rich Hauck, and Mission Specialists John Fabian, Dr. Sally Ride, and Norm Thaggart. With this mission, Cmdr. Crippen became the first astronaut to fly twice in a Space Shuttle Mission and Dr. Sally Ride was the first American woman to fly in space. There is a large amount of footage of the Space Shuttle by the aircraft that accompanies the Shuttle launchings and landings.
CASI
Deployment; Shuttle Pallet Satellites; Space Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System Flights; Spaceborne Experiments

19960000168 NASA Johnson Space Center, Houston, TX, USA
STS-48 mission highlights resource tape. Part 1 of 2
JAN 1, 1991; In English; 60 min. playing time, in color and black and white, with sound
Report No(s): NASA-TM-110848; VJSC-1235-PT-1; NONP-NASA-VT-95-65007; No Copyright; Avail: CASI: C01, DVD

In this first part of a two part video mission-highlights set, the flight of the STS-48 Space Shuttle Orbiter Discovery is reviewed. The flight crew consisted of: J. O. Creighton (Commander); Ken Reightler (Pilot); Charles ‘Sam’ Gemar (Mission Specialist); James ‘Jim’ Buchli (MS); and Mark Brown (MS). Step-by-step pre-launch and sunset launch sequences are shown with accompanying shots inside the Mission Control Center. The primary goal of this mission was the deployment of Upper Atmosphere Research Satellite (UARS). Other (secondary) payloads included: the MidDeck Zero Gravity Experiment (MODE); the Sam/Cream device; the Shuttle Activation Monitor/Cosmic Ray Effects and Activation Monitor Experiment; and the Physiology and Anatomical Rodent Experiment (PARE). Crew activities were shown, along with Earth views (Aurora Borealis (B/W), light from the Kuwait oil fires, lightning over Italy and other areas, polar regions and ice caps, and the USA

at night (B/W)). This was the thirteenth flight of the Space Shuttle Discovery. A night landing is shown.
CASI
Deployment; Discovery (Orbiter); Earth Observations (From Space); Launching; Space Shuttle Missions; Space Shuttle Payloads; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; Upper Atmosphere Research Satellite (UARS)

19960000169 NASA Johnson Space Center, Houston, TX, USA
STS-48 mission highlights resource tape. Part 2 of 2
JAN 1, 1991; In English; 18 min. 18 sec. playing time, in color and black and white, with sound
Report No(s): NASA-TM-110847; VJSC-1235-PT-2; NONP-NASA-VT-95-65008; No Copyright; Avail: CASI: C01, DVD

In this second part of a two part mission highlights tape for the STS-48 Mission, television interviewer, Larry King, hosts a live, satellite-link interview with the flight crew of the STS-48 Mission. Listeners called in and the astronauts answered questions about their flight and space travel in general. The flight crew consisted of: Cmdr. J. O. Creighton; Pilot Rick Hauck, and Mission Specialists Sam Gemar, Jim Buchli, and Mark Brown.
CASI
Astronauts; Discussion; Space Shuttle Missions; Space Transportation System Flights; Spacecrews; Television Systems

19960000428 NASA Johnson Space Center, Houston, TX, USA
STS-47 mission highlights resource tape
Sep 1, 1992; In English; 1 hr. playing time, in color, with sound
Report No(s): NASA-TM-111081; VJSC-1279; NONP-NASA-VT-95-65630; No Copyright; Avail: CASI: C01, DVD

The mission of the STS-47 flight is highlighted in this video. The flight crew consisted of: Cmdr. ‘Hoot’ Gibson, Pilot Kurt Brown, Payload Cmdr. Jan Davis, Payload Specialist. M. Mohri (Japanese Astronaut), and Mission Specialists Jay Apt and May Jemison. The primary goal of this mission was the set-up and carrying out of experiments in the accompanying Japanese Spacelab (SL-J) in cooperation with the Japanese Space Program. Dr. Mohri is the first professional Japanese astronaut to fly in space. Vice President Dan Quayle and his wife are shown addressing the astronauts of the Space Shuttle Endeavour with a small pre-launch speech. On this flight many different physical, physiological, and biological spaceborne experiments were performed. These experiments included: a gas evaporation in low gravity environment experiment; a brainwave signals from carp experiment; several human eye movement and visual physiological tests; various physiological tests on a variety of insects and frogs; a embryology experiments on tadpoles; several experiments concerned with fluid dynamics; an imaging furnace test with heated glass containing gold particles (flow measurement); a Solid Surface Combustion Experiment; and a protein crystal growth experiment. Launch, in-orbit, and landing footage is shown, along with a variety of crew activities. One feature that astronauts were able to record was the actual in-orbit movement of the side wing flaps of the Space Shuttle.
CASI
Endeavour (Orbiter); Fluid Dynamics; Furnaces; Imaging Techniques; International Cooperation; Physiological Tests; Protein Crystal Growth; Space Shuttle Missions; Space Shuttle Payloads; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; Spacelab

19960001487 NASA Johnson Space Center, Houston, TX, USA
STS-44 onboard 16mm photography
Dec 1, 1991; In English; 14 min. playing time, in color, with sound
Report No(s): NASA-TM-111079; NONP-NASA-VT-95-65628; No Copyright; Avail: CASI: C01, DVD

This silent video was filmed by the crew of the STS-44 Space Shuttle using a 16mm camera. Astronauts, Frederick D. Gregory, Terence T. Henricks, F. Story Musgrave, Mario Runco, Jr., James S. Voss, and Thomas J. Hennen, filmed various crew activities inside the shuttle, the deployment of the Defense Support Program satellite (DSP), and several Earth view-footage of arid land masses and cloud cover.
Author
Artificial Satellites; Cameras; Deployment; Space Shuttle Payloads; Space Shuttles; Spaceborne Photography

19960001778 NASA Johnson Space Center, Houston, TX, USA
STS-48 post flight press conference
JAN 1, 1991; In English; 28 min. 30 sec. playing time, in color and black and white, with sound
Report No(s): NASA-TM-110849; JSC-1234; NONP-NASA-VT-95-65009; No Copyright; Avail: CASI: C01, DVD

The flight crew of the STS-48 Space Shuttle Discovery's 13th Flight (Cmdr. J. O. Creighton, Pilot Ken Reightler, MS Charles Gemar, MS James Buchli, and MS Mark Brown) review their mission and discuss their in-flight activities and experiments in this video. The primary goal of this mission was the deployment of the Upper Atmosphere Research Satellite (UARS). Secondary payloads included: the Mid-Deck Zero Gravity Experiment (MODE) that showed how fluids in microgravity and in in-orbit conditions respond to different influences (dynamics and harmonic analysis) and the Extended Duration Orbiter physiological tests of astronaut heat and lung functions. Through these experiments, information useful in the construction and design of the proposed Space Station is hoped to be gained. Earth views included: the Aurora Borealis (B/W); polar region ice packs and caps; the Nile River (at night); the Galapagos Islands, and Earth lightning shots. A night landing is shown.
CASI
Deployment; Earth Observations (From Space); Physiological Tests; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; Upper Atmosphere Research Satellite (UARS); Vibration Tests

19960002572 NASA Johnson Space Center, Houston, TX, USA
STS-44 mission highlights resource tape. Part 2 of 2
Nov 1, 1991; In English; 25 min. 55 sec. playing time, in color, with sound
Report No(s): NASA-TM-111120; VJSC-1241-PT-2; NONP-NASA-VT-95-72064; No Copyright; Avail: CASI: C01, DVD

In this second part of a two part video set of the mission of STS-44, an in-orbit press conference was held. The astronauts (Cmdr. Fred Gregory, Pilot Tom Hendricks, Payload Specialist Tom Hennen, and Mission Specialists Jim Voss, Story Musgrave, and Mario Runco) conversed via satellite with the Johnson Press Center at the Johnson Space Center, Houston, Texas. Journalists asked questions regarding the mission, the status of the mission's experiments, the problems with living in a microgravity environment, upcoming NASA space programs, and future objectives of the Space Shuttle missions.
CASI
News Media; Space Communication; Space Shuttle Missions; Space Shuttles; Space Transportation System Flights; Spacecrews

19960002573 NASA Johnson Space Center, Houston, TX, USA
STS-44 mission highlights resource tape. Part 1 of 2
Nov 1, 1991; In English; 1 hr. 28 sec. playing time, in color, with sound
Report No(s): NASA-TM-111119; VJSC-1241-PT-1; NONP-NASA-VT-95-72066; No Copyright; Avail: CASI: C01, DVD

The STS-44 mission is highlighted in this first part of a two part video set. The flight crew consisted of: Cmdr. Fred Gregory; Pilot Tom Hendricks; Payload Specialist Tom Hennen; and Mission Specialists Story Musgrave, Jim Voss, and Mario Runco. The primary space shuttle mission objective was the deployment of the Defense Support Program (DSP) satellite. Secondary payload and spaceborne experiments consisted of a microbial air sampler, the Terra Scout PADVOS system, an M88-1 camera demonstration, a lower body negative pressure test, the Visual Function Tester, and a bioreactor demonstration. A tour of the flight deck, mid-deck, bathroom, and flight compartments with explanations of the equipment found in each area was conducted, a trash compactor was demonstrated, and footage of the crew together for their Thanksgiving dinner was shown. Earth views include several oceans, cloud cover, typhoon Yuri, northeast Australia, and the Barrier Reef Islands. The actor John Patrick Stewart (Commander Pickard of the show 'Star Trek: The Next Generation') performed the wake-up call for the astronauts. This flight was shortened due to an inertial measurement unit failure on the sixth day of the mission.
CASI
Satellite-Borne Instruments; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews

19960002577 NASA Johnson Space Center, Houston, TX, USA
STS-69 flight day 1 highlights
Sep 7, 1995; In English; 24 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-111122; BRF-1370A; NONP-NASA-VT-95-72065; No Copyright; Avail: CASI: C01, DVD

The first day of the STS-69 flight is highlighted in this video. Shown are the prelaunch and launch activities and the in-orbit SPARTAN-201 satellite pre-deployment checkout of the robot arm in the shuttle's bay. The flight crew consisted of Cmdr. Dave Walker, Pilot Ken Cockrell, and Mission Specialists Jim Voss, Jim Newman, and Mike Gernhardt. Earth views of cloud cover are included.
CASI
Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spacecraft Launching; Spacecrews

19960002578 NASA Johnson Space Center, Houston, TX, USA
STS-69 flight day 2 highlights
Sep 8, 1995; In English; 19 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-111123; BRF-1370B; NONP-NASA-VT-95-72067; No Copyright; Avail: CASI: C01, DVD

In this second day of the STS-69 mission, the SPARTAN-201 satellite is deployed. The SPARTAN satellite is being used for the study of solar physics. An in-orbit interview is conducted with crew member, Mission Specialist Jim Newman, by KABC 7.90 Talk Radio. Newman answers questions from station listeners regarding the mission, future NASA objectives, present NASA objectives, and general questions regarding living in space. The remaining crew members include Cmdr. Dave Walker, Pilot Ken Cockrell, and Mission Specialists Jim Voss and Mike Gernhardt.
CASI
Space Communication; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spacecrews; Spartan Satellites

19960002579 NASA Johnson Space Center, Houston, TX, USA
STS-69 flight day 11 highlights
Sep 17, 1995; In English; 24 min. 35 sec. playing time, in color, with sound
Report No(s): NASA-TM-110601; BRF-1370K; NONP-NASA-VT-95-72079; No Copyright; Avail: CASI: C01, DVD

On this eleventh day of the STS-69 flight, the astronauts, Cmdr. Dave Walker, Pilot Ken Cockrell, and Mission Specialists Jim Voss, Jim Newman, and Mike Gernhardt were awakened to the theme song for the cartoon 'Charlie Brown. ' The crew spent most of the day preparing the shuttle for reentry and landing. Several reporters interviewed the crew via a satellite link. Questions ranging from the status and problems with the mission to NASA's future were asked. Walker and Cockrell performed a successful landing of the space shuttle at Kennedy Space Center.
CASI
Space Communication; Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights

19960002580 NASA Johnson Space Center, Houston, TX, USA
STS-69 flight day 4 highlights
Sep 19, 1995; In English; 18 min. 45 sec. playing time, in color, with sound
Report No(s): NASA-TM-110605; BRF-1370D; NONP-NASA-VT-95-72080; No Copyright; Avail: CASI: C01, DVD

On the fourth day of the STS-69 mission, the astronauts, Cmdr. Dave Walker, Pilot Ken Cockrell, and Mission Specialists Jim Voss, Jim Newman, and Mike Gernhardt, were awakened by 5 year old Madeline Cockrell (Ken Cockrell's daughter) singing the song 'Bingo Was His Name.' The interception and retrieval of the SPARTAN-201 satellite was the first task of the day. The SPARTAN-201's mission was the study of the solar corona and the solar wind. The rest of the day was spent preparing for the deployment of the Wake Shield Facility (WSF), whose purpose during its two day orbit of the Earth, is to grow films for semiconductors in a vacuum-like environment. Earth views included some cloud cover and different areas of South America.
CASI
Payload Retrieval (STS); Semiconducting Films; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; Spartan Satellites

19960002581 NASA Johnson Space Center, Houston, TX, USA
STS-69 flight day 5 highlights
Sep 11, 1995; In English; 14 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110736; BRF-1370E; NONP-NASA-VT-95-72081; No Copyright; Avail: CASI: C01, DVD

Awakening to the theme song of the television show 'Rin Tin Tin', the astronauts, Cmdr. Dave Walker, Pilot Ken Cockrell, and Mission Specialists Jim Voss, Jim Newman, and Mike Gernhardt, of the STS-69 mission began their fifth day in orbit. The deployment of the Wake Shield Facility (WSF) was accomplished successfully, although it was delayed several hours due to communication problems between the satellite and its carrier platform located in the shuttle's cargo bay. The WSF satellite's main purpose was to grow up to seven layers of semiconductor films in a vacuum-like state while orbiting behind the space shuttle. The shuttle's Global Positioning System and Satellite Tracking System were both given checkout tests.
CASI
Scientific Satellites; Semiconducting Films; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecraft Instruments; Spacecrews

19960002582 NASA Johnson Space Center, Houston, TX, USA
STS-69 flight day 6 highlights
Sep 12, 1995; In English; 45 min. playing time, in color, with sound
Report No(s): NASA-TM-110602; BRF-1370F; NONP-NASA-VT-95-72082; No Copyright; Avail: CASI: C01, DVD

After being awakened by the Beatles song, 'A Hard Days Night', the flightcrew of the STS-69 mission, Cmdr. Dave Walker, Pilot Ken Cockrell, and Mission Specialists Jim Voss, Jim Newman, and Mike Gernhardt, began their sixth day in orbit by monitoring the free orbiting Wake Shield Facility (WSF). Later Cmdr. Walker conducted an interview with television reporters from Atlanta and Boston, answering questions about the mission and general questions about NASA's space program. The crew filmed a video fo themselves performing daily routines (eating, shaving, exercising), as well as some of the physiological experiments, and shuttle equipment maintenance and checkout. One of the secondary experiments included the Commercial Generic Bioprocessing Apparatus-7 (CGBA-7), which served as an incubator and experiment station for a variety of tests (agricultural, pharmaceutical, biomedical, and environmental). Earth views included some cloud cover, the Gulf of Mexico, Texas, and the Atlantic Ocean.
CASI
Scientific Satellites; Semiconducting Films; Space Shuttle Missions; Space Shuttle Payloads; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecraft Instruments; Spacecrews; Vacuum Deposition

19960002583 NASA Johnson Space Center, Houston, TX, USA
STS-69 flight day 7 highlights
Sep 13, 1995; In English; 9 min. 15 sec. playing time, in color, with sound
Report No(s): NASA-TM-110600; BRF-1370G; NONP-NASA-VT-95-72083; No Copyright; Avail: CASI: C01, DVD

On the seventh day of the STS-69 mission, the astronauts, Cmdr. Dave Walker, Pilot Ken Cockrell, and Mission Specialists Jim Voss, Jim Newman, and Mike Gernhardt, were awakened by the theme song from the movie 'Patten.' Voss and Gernhardt performed a pre-EVA (Extravehicular Activity) checkout of the new thermal spacesuits that they will be wearing in two days. Solving problems with the Wake Shield Facility (WSF) occupied the other astronauts for most of this day. Earth views included tropical storm Marilyn in the Caribbean.
CASI
Checkout; Scientific Satellites; Space Shuttle Missions; Space Shuttles; Space Suits; Space Transportation System; Space Transportation System Flights; Spacecrews

19960002584 NASA Johnson Space Center, Houston, TX, USA
STS-69 flight day 8 highlights
Sep 14, 1995; In English; 16 min. playing time, in color, with sound
Report No(s): NASA-TM-110634; BRF-1370H; NONP-NASA-VT-95-72084; No Copyright; Avail: CASI: C01, DVD

The astronauts, Cmdr. Dave Walker, Pilot Ken Cockrell, and Mission Specialists Jim Voss, Jim Newman, and Mike Gernhardt were awakened by the theme song of the television cartoon show 'Underdog' on this eighth day of the STS-69 mission. The retrieval of the Wake Shield Facility (WSF) occurred without any major problems. The WSF was unable to grow

all seven layers of films before its retrieval. Only four were grown due to thermal problems.
CASI
Payload Retrieval (STS); Scientific Satellites; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spacecrews

19960002585 NASA Johnson Space Center, Houston, TX, USA
STS-69 flight day 9 highlights
Sep 15, 1995; In English; 30 min. playing time, in color, with sound
Report No(s): NASA-TM-109964; BRF-1370I; NONP-NASA-VT-95-72085; No Copyright; Avail: CASI: C01, DVD

The song, 'He's A Tramp', from the Walt Disney cartoon movie, 'Lady and the Tramp', awakened the astronauts, Cmdr. Dave Walker, Pilot Ken Cockrell, and Mission Specialists Jim Voss, Jim Newman, and Mike Gernhardt, on the ninth day of the STS-69 mission. The Wake Shield Facility (WSF) was again unberthed from the shuttle cargo bay and , using the shuttle's robot arm, held over the side of the shuttle for five hours where it collected data on the electrical field build-up around the spacecraft as part of the Charging Hazards and Wake Studies Experiment (CHAWS). Voss and Gernhardt rehearsed their Extravehicular Activity (EVA) spacewalk, which was planned for the next day. Earth views included cloud cover, a hurricane, and its eye.
CASI
Extravehicular Activity; Payload Deployment & Retrieval System; Scientific Satellites; Space Shuttle Missions; Space Shuttle Orbiters; Space Shuttle Payloads; Space Transportation System; Space Transportation System Flights; Spacecrews

19960002586 NASA Johnson Space Center, Houston, TX, USA
STS-69 flight day 10 highlights
Sep 16, 1995; In English; 17 min. playing time, in color, with sound
Report No(s): NASA-TM-111061; BRF-1370J; NONP-NASA-VT-95-72086; No Copyright; Avail: CASI: C01, DVD

In honor of the Extravehicular Activity (EVA) spacewalk today, the tenth day of the STS-69 mission, the astronauts, Cmdr. Dave Walker, Pilot Ken Cockrell, and Mission Specialists Jim Voss, Jim Newman, and Mike Gernhardt, were awakened to the Frankie Valle and the Four Seasons tune, 'Walk Like A Man.' Voss and Gernhardt tested the new thermal spacesuits and some new tools in the shuttle's cargo bay for six hours. The EVA was successful. The rest of the astronauts monitored the EVA and packed up the equipment and experiments in preparation for their reentry flight tomorrow.
CASI
Extravehicular Activity; Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews

19960003228 NASA Johnson Space Center, Houston, TX, USA
STS-70 mission highlights
Sep 5, 1995; In English; 39 min. playing time, in color, with sound
Report No(s): NIPS-95-05639; NASA-TM-110606; JSC-1514; NONP-NASA-VT-95-1995005639; No Copyright; Avail: CASI: C01, DVD

The highlights of the STS-70 mission are presented in this video. The flight crew consisted of Cmdr. John Hendricks, Pilot Kevin Kregel, Flight Engineer Nancy Curie, and Mission Specialists Dr. Don Thomas and Dr. Mary Ellen Weber. The mission's primary objective was the deployment of the 7th Tracking Data and Relay Satellite (TDRS), which will provide a communication, tracking, telemetry, data acquisition, and command services space-based network system essential to low Earth orbital spacecraft. Secondary mission objectives included activating and studying the Physiological and Anatomical Rodent Experiment/National Institutes of Health-Rodents (PARE/NIH-R), The Bioreactor Demonstration System (BDS), the Commercial Protein Crystal Growth (CPCG) studies, the Space Tissue Loss/National Institutes of Health-Cells (STL/NIH-C) experiment, the Biological Research in Canisters (BRIC) experiment, Shuttle Amateur Radio Experiment-2 (SAREX-2), the Visual Function Tester-4 (VFT-4), the Hand-Held, Earth Oriented, Real-Time, Cooperative, User-Friendly, Location-Targeting and Environmental System (HERCULES), the Microcapsules in Space-B (MIS-B) experiment, the Windows Experiment (WINDEX), the Radiation Monitoring Equipment-3 (RME-3), and the Military Applications of Ship Tracks (MAST) experiment. There was an in-orbit dedication ceremony by the spacecrew and the newly Integrated Mission Control Center to commemorate the Center's integration. The STS-70 mission was the first mission monitored by this new control center.

Earth views included the Earth's atmosphere, a sunrise over the Earth's horizon, several views of various land masses, some B/W lightning shots, some cloud cover, and a tropical storm.
CASI
Bioassay; Payload Deployment & Retrieval System; Physiological Tests; Radio Communication; Radio Relay Systems; Space Shuttle Missions; Space Shuttle Payloads; Space Technology Experiments; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; TDR Satellites

19960007440 NASA Johnson Space Center, Houston, TX, USA
STS-71 mission highlights resource tape
Sep 25, 1995; In English; 1 hr. 15 sec. playing time, in color, with sound
Report No(s): NASA-TM-111141; JSC-1512; NIPS-95-06082; NONP-NASA-VT-95-1995006082; No Copyright; Avail: CASI: C01, DVD

This video highlights the international cooperative Shuttle/Mir mission of the STS-71 flight. The STS-71 flightcrew consists of Cmdr. Robert Hoot' Gibson, Pilot Charles Precourt, and Mission Specialists Ellen Baker, Bonnie Dunbar, and Gregory Harbaugh. The Mir 18 flightcrew consisted of Cmdr. Vladamir Dezhurov, Flight Engineer Gennady Strekalov, and Cosmonaut-Research Dr. Norman Thagard. The Mir 18 crew consisted of Cmdr. Anatoly Solovyev and Flight Engineer Nikolai Budarin. The prelaunch, launch, shuttle in-orbit, and in-orbit rendezvous and docking of the Mir Space Station to the Atlantis Space Shuttle are shown. The Mir 19 crew accompanied the STS-71 crew and will replace the Mir 18 crew upon undocking from the Mir Space Station. Shown is on-board footage from the Mir Space Station of the Mir 18 crew engaged in hardware testing and maintenance, medical and physiological tests, and a tour of the Mir. A spacewalk by the two Mir 18 cosmonauts is shown as they performed maintenance of the Mir Space Station. After the docking between Atlantis and Mir is completed, several mid-deck physiological experiments are performed along with a tour of Atlantis. Dr Thagard remained behind with the Shuttle after undocking to return to Earth with reports from his Mir experiments and observations. In-cabin experiments included the IMAX Camera Systems tests and the Shuttle Amateur Radio Experiment-2 (SAREX-2). There is footage of the shuttle landing.
CASI
Earth Orbits; Mir Space Station; Orbital Rendezvous; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews

19960007441 NASA Johnson Space Center, Houston, TX, USA
STS-69 postflight presentation
Oct 3, 1995; In English; 35 min. playing time, in color, with sound
Report No(s): NASA-TM-111140; JSC-1525; NIPS-95-06083; NONP-NASA-VT-95-1995006083; No Copyright; Avail: CASI: C01, DVD

A postflight conference of the STS-69 mission is presented. The flightcrew ('The Dog Team') consisted of Cmdr. David Walker, Pilot Kenneth Cockrell, Payload Cmdr. James Voss, and Mission Specialists James Newman and Michael Gernhardt. The mission's primary objective was the deployment and retrieval of the SPARTAN-201 satellite, which investigated the interaction between the Sun and it's solar wind. Other secondary experiments and shuttle payloads included the Wake Shield Facility (WSF), which grew several layers of semiconductor films, the International Extreme Ultraviolet Hitchhiker (IEH-1), the Capillary Pumped Loop-2/Gas Bridge Assembly (CAPL-2/GBA), several Get Away Specials (GAS) experiments, the Electrolysis Performance Improvement Concept Study (EPICS), the Thermal Energy Storage (TES-2) experiment, the Commercial Generic Bioprocessing Apparatus-7 (CGBA-7), the National Institutes of Health-Cells 4 (NIH-C4) experiment, and the Biological Research in Canister-6 (BRIC-6) experiment. Earth views consisted of Saudi Arabia water wells, uncommon vortices over Oman, the Amazon River, the Bahamas, Somalia, a sunset over the Earth's horizon, and two hurricanes, Luis and Marilyn.
CASI
Earth Observations (From Space); Get Away Specials (STS); Payload Deployment & Retrieval System; Scientific Satellites; Space Shuttle Missions; Space Transportation System; Space Transportation System Flights; Spaceborne Astronomy; Spaceborne Experiments; Spacecrews; Ultraviolet Astronomy

19960008023 NASA Johnson Space Center, Houston, TX, USA

STS-73 flight day 1

Oct 20, 1995; In English; 23 min. 45 sec. playing time, in color, with sound

Report No(s): NASA-TM-111147; BRF-1384A; NIPS-95-06227; NONP-NASA-VT-95-1995006227; No Copyright; Avail: CASI: C01, DVD

On this first day of the STS-73 sixteen day mission, the crew Cmdr. Kenneth Bowersox, Pilot Kent Rominger, Payload Specialists Albert Sacco and Fred Gregory, and Mission Specialists Kathryn Thornton, Catherine 'Cady' Collman, and Michael Lopez-Alegria are shown in various stages of prelaunch and launch activities. This mission carries the USA Microgravity Lab-2 (USML-2) payload, in which a variety of spaceborne microgravity experiments will be performed. These experiments include the Advanced Protein Crystallization Facility (APCF), The Astroculture (tm)(ASC) hardware and experiment, the Commercial Generic Bioprocessing Apparatus (CGBA), the Crystal Growth Furnace (CGF), the Drop Physics Module (DPM), the Geophysical Fluid Flow Cell (GFFC), the Glovebox (GBX), the Zeolite Crystal Growth (ZCG) experiment, the Surface Tension Driven Convection Experiment (STDCE), the Protein Crystal Growth (PCG) experiment, three Measuring Microgravity experiments (the Space Acceleration Measurement System (SAMS), the Three Dimensional Microgravity Accelerometer (3DMA), and the Orbital Acceleration Research Experiment (OARE)), and the High-Packed Digital Television (HI-PAC) demonstration system. Earth views include some cloud cover and various Earth land masses.

CASI

Earth Observations (From Space); Microgravity; Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; Spacelab

19960008024 NASA Johnson Space Center, Houston, TX, USA

STS-73 flight day 2

Oct 21, 1995; In English; 18 min. 10 sec. playing time, in color, with sound

Report No(s): NASA-TM-111148; BRF-1384B; NIPS-95-06228; NONP-NASA-VT-95-1995006228; No Copyright; Avail: CASI: C01, DVD

On this second day of the STS-73 sixteen day mission, the crew Cmdr. Kenneth Bowersox, Pilot Kent Rominger, Payload Specialists Albert Sacco and Fred Gregory, and Mission Specialists Kathryn Thornton, Catherine 'Cady' Collman, and Michael Lopez-Alegria are shown performing several of the spaceborne experiments on the USA Microgravity Lab-2 (USML-2). These experiments included the Astroculture (tm)(ASC) experiment, the Protein Crystal Growth (PCG) experiment using liquid/liquid diffusion methods, and the Drop Physics Module (DPM) experiment. A High-Packed Digital Television (HI-PAC) system is used to downlink video images of the various experiments from the Shuttle to Mission Control. Video from Mission Control is uplinked to the shuttle using a Ground-Air Television (GATV) system.

CASI

Space Communication; Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; Spacelab

19960008025 NASA Johnson Space Center, Houston, TX, USA

STS-73 flight day 3

Oct 22, 1995; In English; 19 min. 15 sec. playing time, in color, with sound

Report No(s): NASA-TM-111149; BRF-1384C; NIPS-95-06229; NONP-NASA-VT-95-1995006229; No Copyright; Avail: CASI: C01, DVD

On this third day of the STS-73 sixteen day mission, the crew, Cmdr. Kenneth Bowersox, Pilot Kent Rominger, Payload Specialists Albert Sacco and Fred Gregory, and Mission Specialists Kathryn Thornton, Catherine 'Cady' Collman, and Michael Lopez-Alegria are shown performing several of the spaceborne experiments onboard the USA Microgravity Lab-2 (USML-2). The experiments shown include the Surface Tension Driven Convection Experiment (STDCE), the Drop Physics Module (DPM) experiment, and the High-Packed Digital Television (HI-PAC) demonstration. The HI-PAC allows the digitization of up to six video downlink signals from the Spacelab experiments and other cameras onboard the Shuttle, where previously only one downlink was allowed.

CASI

Space Communication; Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; Spacelab

19960008043 NASA Johnson Space Center, Houston, TX, USA
STS-73 flight day 4
Oct 23, 1995; In English; 23 min. 20 sec. playing time, in color, with sound
Report No(s): NASA-TM-111150; BRF-1384D; NIPS-95-06230; NONP-NASA-VT-95-1995006230; No Copyright; Avail: CASI: C01, DVD

On this fourth day of the STS-73 sixteen day mission, the crew Cmdr. Kenneth Bowersox, Pilot Kent Rominger, Payload Specialists Albert Sacco and Fred Gregory, and Mission Specialists Kathryn Thornton, Catherine 'Cady' Collman, and Michael Lopez-Alegria are shown performing several of the spaceborne experiments onboard the USA Microgravity Lab-2 (USML-2). The experiments shown include the High-Packed Digital Television (HI-PAC) demonstration, the Surface Tension Driven Convection Experiment (STDCE), and the Drop Physics Module (DPM) experiment. Video footage is shown of the crew working in the Spacelab along with a split screen Shuttle downlink/Ground-Air Television (GATV) uplink from Mission Control. Several of the astronauts are interviewed by Mission Control regarding the status of the experiments.
CASI
Ground-Air-Ground Communication; Space Communication; Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; Spacelab

19960008044 NASA Johnson Space Center, Houston, TX, USA
STS-73 flight day 5
Oct 24, 1995; In English; 16 min. 15 sec. playing time, in color, with sound
Report No(s): NASA-TM-111151; BRF-1384E; NIPS-95-06231; NONP-NASA-VT-95-1995006231; No Copyright; Avail: CASI: C01, DVD

On this fifth day of the STS-73 sixteen day mission, the crew Cmdr. Kenneth Bowersox, Pilot Kent Rominger, Payload Specialists Albert Sacco and Fred Gregory, and Mission Specialists Kathryn Thornton, Catherine 'Cady' Collman, and Michael Lopez-Alegria are shown performing several of the spaceborne experiments onboard the USA Microgravity Lab-2 (USML-2). These experiments are downlinked to Mission Control from the Spacelab using the High-Packed Digital Television (HI-PAC) systems onboard the Shuttle. The experiments shown include the Drop Physics Module (DPM) experiment, the Surface Tension Driven Convection Experiment (STDCE), the Protein Crystal Growth (PCG) experiment, and a Hand-Held Diffusion Test Cell experiment. Lopez-Alegria is interviewed in Spanish by two Spanish radio show hosts. Earth views include cloud cover, the Earth's horizon and atmospheric boundary layers, and several oceans.
CASI
Earth Observations (From Space); Ground-Air-Ground Communication; Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; Spacelab

19960008045 NASA Johnson Space Center, Houston, TX, USA
STS-73 flight day 6
Oct 25, 1995; In English; 22 min. 55 sec. playing time, in color, with sound
Report No(s): NASA-TM-111152; BRF-1384F; NIPS-95-06232; NONP-NASA-VT-95-1995006232; No Copyright; Avail: CASI: C01, DVD

On this sixth day of the STS-73 sixteen day mission, the crew Cmdr. Kenneth Bowersox, Pilot Kent Rominger, Payload Specialists Albert Sacco and Fred Gregory, and Mission Specialists Kathryn Thornton, Catherine 'Cady' Collman, and Michael Lopez-Alegria are shown performing several of the spaceborne experiments onboard the USA Microgravity Lab-2 (USML-2). The experiments shown include the Protein Crystal Growth (PCG) experiment, the Astroculture(tm)(ASC) experiment, the Drop Physics Module (DPM) experiment, and the Surface Tension Driven Convection Experiment (STDCE). The High-Packed Digital Television (HI-PAC) system is further tested and an in-orbit interview with Lopez-Alegria by NBC Nightside is conducted. The entire flightcrew salutes the 5th game of the World Series between the Atlanta Braves and Cleveland Indians by pretending to throw out the first ball of the game through a downlink to the stadium. Earth views taken from the payload bay cameras include some cloud cover, oceans, land masses, and the Nile River and the Red Sea.
CASI
Earth Observations (From Space); Electronic Equipment Tests; Ground-Air-Ground Communication; Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; Spacelab

19960008046 NASA Johnson Space Center, Houston, TX, USA

STS-73 flight day 7

Oct 26, 1995; In English; 10 min. 15 sec. playing time, in color, with sound

Report No(s): NASA-TM-111153; BRF-1384G; NIPS-95-06233; NONP-NASA-VT-95-1995006233; No Copyright; Avail: CASI: C01, DVD

On this seventh day of the STS-73 sixteen day mission, the crew Cmdr. Kenneth Bowersox, Pilot Kent Rominger, Payload Specialists Albert Sacco and Fred Gregory, and Mission Specialists Kathryn Thornton, Catherine ‘Cady’ Collman, and Michael Lopez-Alegria are shown performing several of the spaceborne experiments onboard the USA Microgravity Lab-2 (USML-2). The experiments shown included the Surface Tension Driven Convection Experiment (STDCE), the Drop Physics Module (DPM), the Protein Crystal Growth (PCG) experiment, and the Glovebox (GBX) demonstration. All the experiments were monitored by the High-Packed Digital Television (HI-PAC) system onboard the shuttle.

CASI

Ground-Air-Ground Communication; Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; Spacelab

19960008047 NASA Johnson Space Center, Houston, TX, USA

STS-73 flight day 8

Oct 27, 1995; In English; 16 min. 45 sec. playing time, in color, with sound

Report No(s): NASA-TM-111154; BRF-1384H; NIPS-95-06234; NONP-NASA-VT-95-1995006234; No Copyright; Avail: CASI: C01, DVD

On this eighth day of the STS-73 sixteen day mission, the crew Cmdr. Kenneth Bowersox, Pilot Kent Rominger, Payload Specialists Albert Sacco and Fred Gregory, and Mission Specialists Kathryn Thornton, Catherine ‘Cady’ Collman, and Michael Lopez-Alegria are shown performing several of the spaceborne experiments onboard the USA Microgravity Lab-2 (USML-2). The experiments shown include the Astroculture(tm)(ASC) experiment, the Protein Crystal Growth (PCG) experiment, the Surface Tension Driven Convection Experiment (STDCE), the Commercial Generic Bioprocessing Apparatus (CGBA),and further testing of the High-Packed Digital Television (HI-PAC) system. An interview with Bowersox and Thornton regarding the mission’s status was conducted by radio World News Now in Houston.

CASI

Ground-Air-Ground Communication; News Media; Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; Spacelab

19960008048 NASA Johnson Space Center, Houston, TX, USA

STS-73 flight day 9

Oct 28, 1995; In English; 12 min. 30 sec. playing time, in color, with sound

Report No(s): NASA-TM-111155; BRF-1384I; NIPS-95-06235; NONP-NASA-VT-95-1995006235; No Copyright; Avail: CASI: C01, DVD

On this ninth day of the STS-73 sixteen day mission, the crew Cmdr. Kenneth Bowersox, Pilot Kent Rominger, Payload Specialists Albert Sacco and Fred Gregory, and Mission Specialists Kathryn Thornton, Catherine ‘Cady’ Collman, and Michael Lopez-Alegria are shown performing several of the spaceborne experiments onboard the USA Microgravity Lab-2 (USML-2). The experiments shown include the Surface Tension Driven Convection Experiment (STDCE) and the Protein Crystal Growth (PCG) experiment with different types of solution mixtures used. The imagery of the experiments inside the Spacelab were downlinked to Mission Control with the High-Packed Digital Television (HI-PAC) system.

CASI

Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; Spacelab

19960008049 NASA Johnson Space Center, Houston, TX, USA

STS-73 flight day 10

Oct 29, 1995; In English; 12 min. 5 sec. playing time, in color, with sound

Report No(s): NASA-TM-111156; BRF-1384J; NIPS-95-06236; NONP-NASA-VT-95-1995006236; No Copyright; Avail: CASI: C01, DVD

On this tenth day of the STS-73 sixteen day mission, the crew Cmdr. Kenneth Bowersox, Pilot Kent Rominger, Payload

Specialists Albert Sacco and Fred Gregory, and Mission Specialists Kathryn Thornton, Catherine ‘Cady’ Collman, and Michael Lopez-Alegria are shown performing several of the spaceborne experiments onboard the USA Microgravity Lab-2 (USML-2). The experiments shown include the Surface Tension Driven Convection Experiment (STDCE), the Drop Physics Module (DPM) experiment, and the Geophysical Fluid Flow Cell Experiment (GFFC). All experiment imagery was downlinked from the shuttle to Mission Control using the High-Packed Digital Television (HI-PAC) system.
CASI
Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; Spacelab

19960008050 NASA Johnson Space Center, Houston, TX, USA
STS-73 flight day 11
Oct 30, 1995; In English; 7 min. 25 sec. playing time, in color, with sound
Report No(s): NASA-TM-111157; BRF-1384K; NIPS-95-06237; NONP-NASA-VT-95-1995006237; No Copyright; Avail: CASI: C01, DVD

On this eleventh day of the STS-73 sixteen day mission, the crew Cmdr. Kenneth Bowersox, Pilot Kent Rominger, Payload Specialists Albert Sacco and Fred Gregory, and Mission Specialists Kathryn Thornton, Catherine ‘Cady’ Collman, and Michael Lopez-Alegria are shown performing several of the spaceborne experiments onboard the USA Microgravity Lab-2 (USML-2). The experiments shown included the Drop Physics Module (DPM) and the Surface Tension Driven Convection Experiment (STDCE). Thermistors are used in the STDCE to study the fluid dynamics behind particle motion.
CASI
Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; Spacelab

19960008051 NASA Johnson Space Center, Houston, TX, USA
STS-73 flight day 12
Oct 31, 1995; In English; 13 min. 33 sec. playing time, in color, with sound
Report No(s): NASA-TM-111158; BRF-1384L; NIPS-95-06238; NONP-NASA-VT-95-1995006238; No Copyright; Avail: CASI: C01, DVD

On this twelfth day of the STS-73 sixteen day mission, the crew Cmdr. Kenneth Bowersox, Pilot Kent Rominger, Payload Specialists Albert Sacco and Fred Gregory, and Mission Specialists Kathryn Thornton, Catherine ‘Cady’ Collman, and Michael Lopez-Alegria are shown performing several of the spaceborne experiments onboard the USA Microgravity Lab-2 (USML-2). The experiments shown included the Drop Physics Module (DPM) experiment, the Surface Tension Driven Convection Experiment (STDCE), and the Astroculture (tm)(ASC) demonstration. Rominger was interviewed by a Colorado radio news show and asked questions about the mission and living in space. Earth views included cloud cover.
CASI
Earth Observations (From Space); Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; Spacelab

19960008052 NASA Johnson Space Center, Houston, TX, USA
STS-73 flight day 13
Nov 1, 1995; In English; 11 min. 50 sec. playing time, in color, with sound
Report No(s): NASA-TM-111159; BRF-1384M; NIPS-95-06239; NONP-NASA-VT-95-1995006239; No Copyright; Avail: CASI: C01, DVD

On this thirteenth day of the STS-73 sixteen day mission, the crew Cmdr. Kenneth Bowersox, Pilot Kent Rominger, Payload Specialists Albert Sacco and Fred Gregory, and Mission Specialists Kathryn Thornton, Catherine ‘Cady’ Collman, and Michael Lopez-Alegria are shown performing several of the spaceborne experiments onboard the USA Microgravity Lab-2 (USML-2). The experiments shown included the Drop Physics Module (DPM) experiment, human physiological experiments, and a Crystal Gel experiment.
CASI
Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; Spacelab

19960008152 NASA Johnson Space Center, Houston, TX, USA

STS-73 flight day 14

Nov 2, 1995; In English; 20 min. 50 sec. playing time, in color, with sound

Report No(s): NASA-TM-111160; BRF-1384N; NIPS-95-06240; NONP-NASA-VT-95-1995006240; No Copyright; Avail: CASI: C01, DVD

On this fourteenth day of the STS-73 sixteen day mission, the crew Cmdr. Kenneth Bowersox, Pilot Kent Rominger, Payload Specialists Albert Sacco and Fred Gregory, and Mission Specialists Kathryn Thornton, Catherine 'Cady' Collman, and Michael Lopez-Alegria are shown performing several of the spaceborne experiments onboard the USA Microgravity Lab-2 (USML-2). The experiments shown include the Drop Physics Module (DPM) experiment, the Surface Tension Driven Convection Experiment (STDCE), the Geophysical Fluid Flow Cell (GFFC) experiment, and an experiment on fuel combustion and combustion products. Bowersox, Sacco, Thornton, and Rominger (the red team) were interviewed by high school students from Worcester, Massachusetts, who asked questions regarding the mission's experiments and general questions about living in space. Earth views included a black and white image of the Earth's atmospheric boundary layers.

CASI

Earth Observations (From Space); Ground-Air-Ground Communication; Microgravity; Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; Spacelab

19960008153 NASA Johnson Space Center, Houston, TX, USA

STS-73 flight day 15

Nov 3, 1995; In English; 30 min. playing time, in color, with sound

Report No(s): NASA-TM-111162; BRF-1384O; NIPS-95-06241; NONP-NASA-VT-95-1995006241; No Copyright; Avail: CASI: C01, DVD

On this fifteenth day of the STS-73 sixteen day mission, the crew Cmdr. Kenneth Bowersox, Pilot Kent Rominger, Payload Specialists Albert Sacco and Fred Gregory, and Mission Specialists Kathryn Thornton, Catherine 'Cady' Collman, and Michael Lopez-Alegria are shown hosting an in-orbit interview with various newspaper reporters from Johnson Space Center, Kennedy Space Center, and Marshall Space Flight Center via satellite hookup. The astronauts were asked questions regarding the status of the USA Microgravity Lab-2 (USML-2) experiments, their personal goals regarding their involvement in the mission, their future in the space program, and general questions about living in space. Earth views included cloud cover and a tropical storm.

CASI

Earth Observations (From Space); Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecrews; Spacelab

19960008154 NASA Johnson Space Center, Houston, TX, USA

STS-73 flight day 16

Nov 4, 1995; In English; 19 min. 50 sec. playing time, in color, with sound

Report No(s): NASA-TM-111163; BRF-1384P; NIPS-95-06242; NONP-NASA-VT-95-1995006242; No Copyright; Avail: CASI: C01, DVD

On this last day of the STS-73 sixteen day mission, the crew Cmdr. Kenneth Bowersox, Pilot Kent Rominger, Payload Specialists Albert Sacco and Fred Gregory, and Mission Specialists Kathryn Thornton, Catherine 'Cady' Collman, and Michael Lopez-Alegria are shown preparing the USA Microgravity Lab-2 (USML-2) and the shuttle for return to Earth. There is footage of the shuttle from the robot arm cameras and of Earth. Earth views include cloud cover, various land masses, mountain ranges, and oceans.

CASI

Earth Observations (From Space); Space Shuttle Missions; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spacecrews; Spacelab

19960009941 NASA Johnson Space Center, Houston, TX, USA

STS-74 flight day 8

Nov 19, 1995; In English; 30 min. playing time, in color, with sound

Report No(s): NASA-TM-111210; BRF-1388H; NIPS-96-07184; NONP-NASA-VT-96-1996007184; No Copyright; Avail: CASI: C01, DVD

On this the eighth day of the STS-74 mission, the flight crew Cmdr. Kenneth Cameron, Pilot James Halsell, and Mission Specialists William McArthur, Jerry Ross, and Chris Hatfield, using the remote manipulator system (RMS), took exterior views of the shuttle in space. Additionally, the crew answered several questions posted on one of NASA's websites on the Internet.

CASI

Space Transportation System; Space Transportation System Flights

19960010205 NASA Johnson Space Center, Houston, TX, USA

STS-46 post flight press conference

Aug 14, 1992; In English; 1 hr. 23 min. 30 sec. playing time, in color, with sound

Report No(s): NASA-TM-111202; NIPS-96-07176; NONP-NASA-VT-96-1996007176; No Copyright; Avail: CASI: C01, DVD

At a post flight press conference, the flight crew of the STS-46 mission (Cmdr. Loren Shriver, Pilot Andrew Allen, Mission Specialists Claude Nicollier (European Space Agency (ESA)), Marsha Ivins (Flight Engineer), Jeff Hoffman (Payload Commander), Franklin Chang-Dias, and Payload Specialist Franco Malerba (Italian Space Agency (ISA))) discussed their roles in and presented video footage, slides and still photographs of the different aspects of their mission. The primary objectives of the mission were the deployment of ESA's European Retrievable Carrier (EURECA) satellite and the joint NASA/ISA deployment and testing of the Tethered Satellite System (TSS). Secondary objectives included the IMAX Camera, the Limited Duration Space Environment Candidate Materials Exposure (LDVE), and the Pituitary Growth Hormone Cell Function (PHCF) experiments. Video footage of the EURECA and TSS deployment procedures are shown. Earth views were extensive and included Javanese volcanoes, Amazon basin forest ground fires, southern Mexico, southern Bolivian volcanoes, south-west Sudan and the Sahara Desert, and Melville Island, Australia. Questions from reporters and journalists from Johnson Space Center and Kennedy Space Center were discussed.

CASI

Earth Observations (From Space); Eureca (ESA); European Space Agency; Flight Crews; Payload Deployment & Retrieval System; Postflight Analysis; Scientific Satellites; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Tethered Satellites

19960010206 NASA Johnson Space Center, Houston, TX, USA

STS-74 flight day 1

Nov 12, 1995; In English; 17 min. 46 sec. playing time, in color, with sound

Report No(s): NASA-TM-111203; BRF-1388A; NIPS-96-07177; NONP-NASA-VT-96-1996007177; No Copyright; Avail: CASI: C01, DVD

On this first day of the STS-74 mission, the flight crew, Cmdr. Kenneth Cameron, Pilot James Halsell, and Mission Specialists William McArthur, Jerry Ross, and Chris Hatfield, are shown in prelaunch and launch activities. This mission is the second of seven Mir-Space Shuttle hook-ups. Major objectives of this mission are to include a docking between Mir and the Space Shuttle and the transfer of a Russian docking module, water, supplies, and two solar arrays to the Mir space station. This mission highlights the first time that astronauts from Canada, Russia, the U.S. and the European Space Agency (ESA) will be onboard a single spacecraft in space at the same time. Additional experimental payloads onboard the shuttle are the GLO-4 PASDE Payload (GPP) experiment and the Photogrammetric Appendage Structural Dynamics Experiment (PASDE).

CASI

Flight Crews; Mir Space Station; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecraft Docking

19960010207 NASA Johnson Space Center, Houston, TX, USA
STS-74 flight day 2
Nov 13, 1995; In English; 26 min. 56 sec. playing time, in color, with sound
Report No(s): NASA-TM-111204; BRF-1388B; NIPS-96-07178; NONP-NASA-VT-96-1996007178; No Copyright; Avail: CASI: C01, DVD

On the second day of the STS-74 mission, the flight crew, Cmdr. Kenneth Cameron, Pilot James Halsell, and Mission Specialists William McArthur, Jerry Ross, and Chris Hatfield, were awakened to music from the play 'The Nutcracker'. The astronauts hosted an in-orbit interview with Canadian reporters and journalists from Toronto, answering general questions about living in space and space flight, and explaining the delicate maneuvers that the shuttle will have to perform for the Mir docking procedures scheduled for the next day. Due to the awkward angle that the shuttle will use to approach the Mir, the docking procedure will be done in an almost blind state.
CASI
Flight Crews; Mir Space Station; Space Communication; Space Shuttle Missions; Space Shuttle Payloads; Space Transportation System; Space Transportation System Flights; Spacecraft Docking; Spacecraft Maneuvers

19960010208 NASA Johnson Space Center, Houston, TX, USA
STS-74 flight day 3
Nov 14, 1995; In English; 30 min. 33 sec. playing time, in color, with sound
Report No(s): NASA-TM-111205; BRF-1388C; NIPS-96-07179; NONP-NASA-VT-96-1996007179; No Copyright; Avail: CASI: C01, DVD

On this third day of the STS-74 mission, the flight crew, Cmdr. Kenneth Cameron, Pilot James Halsell, and Mission Specialists William McArthur, Jerry Ross, and Chris Hatfield successfully connect the Russian-made docking module to the Space Shuttle using the shuttle's robot arm. There is a live, in-orbit press interview with the astronauts from inside the Russian docking module regarding the status of the mission thus far. The docking module will remain with Mir after the two spacecraft have undocked.
CASI
Flight Crews; Mir Space Station; Modules; Space Communication; Space Shuttle Payloads; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spacecraft Docking

19960010209 NASA Johnson Space Center, Houston, TX, USA
STS-74 flight day 4
Nov 15, 1995; In English; 36 min. 16 sec. playing time, in color, with sound
Report No(s): NASA-TM-111206; BRF-1388D; NIPS-96-07180; NONP-NASA-VT-96-1996007180; No Copyright; Avail: CASI: C01, DVD

On this fourth day of the STS-74 mission, the flight crew, Cmdr. Kenneth Cameron, Pilot James Halsell, and Mission Specialists William McArthur, Jerry Ross, and Chris Hatfield, perform a successful docking between the space shuttle and the Mir space station using the Russian-made docking module that had been previously installed on the third day of the mission. The astronauts and the Mir 20 cosmonauts, Cmdr. Yuri Gidzenko, Flight Engineer Gergei Avdeyev, and Cosmonaut-Researcher (ESA) Thomas Reiter, are shown greeting each other from inside the docking module and an in-orbit interview between the crews and NASA is conducted in both English and Russian.
CASI
Flight Crews; Mir Space Station; Orbital Maneuvers; Space Communication; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spacecraft Docking

19960010210 NASA Johnson Space Center, Houston, TX, USA
STS-74 flight day 5
Nov 16, 1995; In English; 38 min. playing time, in color, with sound
Report No(s): NASA-TM-111207; BRF-1388E; NIPS-96-07181; NONP-NASA-VT-96-1996007181; No Copyright; Avail: CASI: C01, DVD

On this fifth day of the STS-74 mission, the flight crew, Cmdr. Kenneth Cameron, Pilot James Halsell, and Mission Specialists William McArthur, Jerry Ross, and Chris Hatfield, were awakened to the theme from the movie 2001: A Space Odyssey'. The Mir 20 cosmonauts, Cmdr. Yuri Gidzenko, Flight Engineer Sergei Avdeyev, and Cosmonaut-Researcher (ESA)

Thomas Reiter, and shuttle astronauts are shown giving each other plaques and presents to commemorate their historic docking event and the start towards the development of the International Space Station. There is a press conference from Moscow by a one of the officers of the Russian Space Agency with both flight crews and an additional separate press interview of the crews by Canadian reporters. There is video footage of the two docked spacecraft taken from various angles.
CASI
Conferences; Flight Crews; Mir Space Station; Space Communication; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecraft Docking

19960010211 NASA Johnson Space Center, Houston, TX, USA
STS-74 flight day 6
Nov 17, 1995; In English; 31 min. 8 sec. playing time, in color, with sound
Report No(s): NASA-TM-111208; BRF-1388F; NIPS-96-07182; NONP-NASA-VT-96-1996007182; No Copyright; Avail: CASI: C01, DVD

On this sixth day of the STS-74 mission, the flight crew, Cmdr. Kenneth Cameron, Pilot James Halsell, and Mission Specialists William McArthur, Jerry Ross, and Chris Hatfield and the Mir 20 cosmonauts, Cmdr. Yuri Gidzenko, Flight Engineer Sergei Avdeyev, and Cosmonaut-Researcher (ESA) Thomas Reiter, were greeted and briefly interviewed by the Secretary General of the United Nations, Boutros Boutros-Ghali, on the 50th anniversary of the United Nations via a radio satellite hookup. An additional interview with other journalists from different areas of the USA and Canada was also presented.
CASI
Mir Space Station; Space Communication; Space Shuttle Missions; Space Shuttle Payloads; Space Shuttles; Space Transportation System; Space Transportation System Flights; Spaceborne Experiments; Spacecraft Docking

19960010212 NASA Johnson Space Center, Houston, TX, USA
STS-74 flight day 7
Nov 18, 1995; In English; 22 min. playing time, in color, with sound
Report No(s): NASA-TM-111209; BRF-1388G; NIPS-96-07183; NONP-NASA-VT-96-1996007183; No Copyright; Avail: CASI: C01, DVD

On this the seventh day of the STS-74 mission, the flight crew Cmdr. Kenneth Cameron, Pilot James Halsell, and Mission Specialists William McArthur, Jerry Ross, and Chris Hatfield, filmed the Mir-shuttle separation maneuver. After separation, the shuttle performed a fly-around of the Mir space station , during which, a variety of views of the Mir station were taken. Earth views include cloud cover.
CASI
Mir Space Station; Space Rendezvous; Space Transportation System; Space Transportation System Flights; Spacecraft Docking

19960025955 NASA Johnson Space Center, Houston, TX USA
STS-76 Flight Day 2
Mar. 23, 1996; In English; 19 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-111417; BRF-1393B; NONP-NASA-VT-96-1996039903; No Copyright; Avail: CASI: C01, DVD

On this second day of the STS-76 mission, the flight crew, Cmdr. Kevin P. Chilton, Pilot Richard A Searfoss, and Mission Specialists Shannon W. Lucid, Linda M. Godwin, Michael R. Clifford, and Ronald M. Sega, are shown checking out one of the leaking hydraulic systems onboard the Space Shuttle Atlantis. There was an in-orbit interview with the astronauts by the host of the NBC show, ‘Nightside’. The construction of the SPACEHAB unit also was started.
CASI
Space Transportation System; Space Shuttles; Hydraulic Equipment

19960025956 NASA Johnson Space Center, Houston, TX USA
STS-75 Post Flight Presentation
Mar. 28, 1996; In English; 38 min. 18 sec. playing time, in color, with sound
Report No(s): NASA-TM-111416; JSC-1564; NONP-NASA-VT-96-1996039902; No Copyright; Avail: CASI: C01, DVD

The flight crew of the STS-75 Space Shuttle, Cmdr. Andrew Allen, Pilot Scott Horowitz, Payload Cmdr. Franklin

Chang-Diaz, Payload Specialist Umberto Guidoni (Italy), and Mission Specialists Jeffrey Hoffman, Maurizio Cheli (ESA) and Claude Nicollier (ESA), present a post flight analysis of their mission through the use of color slides and video footage. Prelaunch and launch activities are shown along with Earth entry and landing footage. Both middeck and payload bay microgravity experiments are shown and briefly discussed. The deployment and loss of the European Tethered Satellite experiment are presented and discussed. Earth views include the Nile Valley, Chad, the Himalayas and Mount Everest, and China. A unique moonset is also shown.
CASI
Space Transportation System; Tethered Satellites; Postflight Analysis; Space Shuttles; Gravitational Effects; Deployment

19960025957 NASA Johnson Space Center, Houston, TX USA
STS-75 Flight Day 9
Mar. 01, 1996; In English; 17 min. playing time, in color, with sound
Report No(s): NASA-TM-111398; BRF-1391I; NONP-NASA-VT-96-1996037044; No Copyright; Avail: CASI: C01, DVD

On this ninth day of the STS-75 mission, the flight crew, Cmdr. Andrew Allen, Pilot Scott Horowitz, Payload Cmdr. Franklin Chang-Diaz, Payload Specialist Umberto Guidoni (Italy), and Mission Specialists Jeffrey Hoffman, Maurizio Cheli (ESA) and Claude Nicollier (ESA), are shown tracking the free-orbiting tethered satellite and performing various experiments from the USA Microgravity Payload-3 (USMP-3). An in-orbit interview with Allen, Cheli, and Guidoni by the Italian news media is shown. The astronauts answer a variety of questions concerning the loss of the tethered satellite, and the progress of the other mission experiments. Earth views include a sunset and horizon shots.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Spaceborne Experiments; Microgravity; Space Shuttle Payloads; Space Shuttle Missions; Columbia (Orbiter); Earth Observations (From Space); Space Communication; Tethered Satellites

19960025958 NASA Johnson Space Center, Houston, TX USA
STS-75 Flight Day 8
Feb. 29, 1996; In English; 17 min. playing time, in color, with sound
Report No(s): NASA-TM-111397; BRF-1391H; NONP-NASA-VT-96-1996037043; No Copyright; Avail: CASI: C01, DVD

On this eighth day of the STS-75 mission, the flight crew, Cmdr. Andrew Allen, Pilot Scott Horowitz, Payload Cmdr. Franklin Chang-Diaz, Payload Specialist Umberto Guidoni (Italy), and Mission Specialists Jeffrey Hoffman, Maurizio Cheli (ESA) and Claude Nicollier (ESA), are shown performing the Advanced Automated Directional Solidification Furnace (AADSF) experiment which is one part of the USA Microgravity Payload-3 (USMP-3) experiments. Earth views include cloud cover.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Microgravity; Space Shuttle Missions; Space Shuttle Payloads; Spaceborne Experiments; Earth Observations (From Space); Columbia (Orbiter)

19960025960 NASA Johnson Space Center, Houston, TX USA
STS-75 Flight Day 5
Feb. 26, 1996; In English; 18 min. 25 sec. playing time, in color, with sound
Report No(s): NASA-TM-111395; BRF-1391E; NONP-NASA-VT-96-1996037040; No Copyright; Avail: CASI: C01, DVD

On this fifth day of the STS-75 mission, the flight crew, Cmdr. Andrew Allen, Pilot Scott Horowitz, Payload Cmdr. Franklin Chang-Diaz, Payload Specialist Umberto Guidoni (Italy), and Mission Specialists Jeffrey Hoffman, Maurizio Cheli (ESA) and Claude Nicollier (ESA), are shown viewing the tethered satellite and performing experiments, both onboard the shuttle and with the TSS. An accident occurs in which the tether breaks and the satellite is shown floating away from the shuttle. There is an in-orbit interview with reporters from Johnson Space Center after the accident occurred, in which they discuss the reasons for the accident and how the experiment can be salvaged.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Tethered Satellites; Columbia (Orbiter); Spaceborne Experiments; Space Communication; Space Shuttle Missions; Space Shuttle Payloads

19960025961 NASA Johnson Space Center, Houston, TX USA
STS-75 Flight Day 4
Feb. 25, 1996; In English; 22 min. playing time, in color, with sound
Report No(s): NASA-TM-111394; BRF-1391D; NONP-NASA-VT-96-1996037039; No Copyright; Avail: CASI: C01, DVD

On this fourth day of the STS-75 mission, the flight crew, Cmdr. Andrew Allen, Pilot Scott Horowitz, Payload Cmdr. Franklin Chang-Diaz, Payload Specialist Umberto Guidoni (Italy), and Mission Specialists Jeffrey Hoffman, Maurizio Cheli (ESA) and Claude Nicollier (ESA), are shown unlatching and deploying the Tethered Satellite System Reflight (TSS-1R) and activating several of the middeck experiments from the USA Microgravity Payload-3 (USMP-3). There is more imaging of the Space Shuttle's exhaust system using vented water vapor and Earth views, which include horizon shots.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Tethered Satellites; Microgravity; Spaceborne Experiments; Space Shuttle Missions; Space Shuttle Payloads; Payload Delivery (STS); Columbia (Orbiter)

19960025962 NASA Johnson Space Center, Houston, TX USA
STS-75 Flight Day 3
Feb. 24, 1996; In English; 15 min. 8 sec. playing time, in color, with sound
Report No(s): NASA-TM-111393; BRF-1391C; NONP-NASA-VT-96-1996037038; No Copyright; Avail: CASI: C01, DVD

On this third day of the STS-75 mission, the flight crew, Cmdr. Andrew Allen, Pilot Scott Horowitz, Payload Cmdr. Franklin Chang-Diaz, Payload Specialist Umberto Guidoni (Italy), and Mission Specialists Jeffrey Hoffman, Maurizio Cheli (ESA) and Claude Nicollier (ESA), are shown, with Mission Control's help, still trying to correct the problems with the 'Smart Flex' computer system which is delaying the deployment of the Tethered Satellite System Reflight (TSS-1R). There is imaging shown of the shuttle's exhaust system using water vapor.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Spacecraft Electronic Equipment; Space Shuttle Missions; Space Shuttle Payloads; International Cooperation; Columbia (Orbiter)

19960025963 NASA Johnson Space Center, Houston, TX USA
STS-75 Flight Day 1
Feb. 22, 1996; In English; 30 min. playing time, in color, with sound
Report No(s): NASA-TM-111391; BRF-1391A; NONP-NASA-VT-96-1996037036; No Copyright; Avail: CASI: C01, DVD

On this first day of the STS-75 mission, the flight crew, Cmdr. Andrew Allen, Pilot Scott Horowitz, Payload Cmdr. Franklin Chang-Diaz, Payload Specialist Umberto Guidoni (Italy), and Mission Specialists Jeffrey Hoffman, Maurizio Cheli (ESA) and Claude Nicollier (ESA), were shown performing pre-launch and launching activities. This international space mission's primary objective is the deployment of the Tethered Satellite System Reflight (TSS-1R) to a 12 mile length from the shuttle, a variety of experiments, and the satellite retrieval. These experiments include: Research on Orbital Plasma Electrodynamics (ROPE); TSS Deployer Core Equipment and Satellite Core Equipment (DCORE/SCORE); Research on Electrodynamic Tether Effects (RETE); Magnetic Field Experiments for TSS Missions (TEMAG); Shuttle Electrodynamic Tether Systems (SETS); Shuttle Potential and Return Electron Experiment (SPREE); Tether Optical Phenomena Experiment (TOP); and Observations at the Earth's Surface of Electromagnetic Emissions by TSS (OESSE). The missions's secondary objectives were those experiments found in the USA Microgravity Payload-3 (USMP-3), which include: Advanced Automated Directional Solidification Furnace (AADSF); Material pour l'Etude des Phenomenes Interessant la Solidification sur Terre et en Orbite (MEPHISTO); Space Acceleration Measurement System (SAMS); Orbital Acceleration Research Experiment (OARE); Critical Fluid Scattering Experiment (ZENO); and Isothermal Dendritic Growth Experiment (IDGE).
CASI
Space Transportation System Flights; Space Transportation System; Spacecrews; Tethered Satellites; Spaceborne Experiments; Space Shuttle Missions; Space Shuttle Payloads; Payload Delivery (STS); Payload Retrieval (STS); Columbia (Orbiter); International Cooperation; Earth Observations (From Space)

19960025964 NASA Johnson Space Center, Houston, TX USA
STS-72 Post Flight Presentation
Peterson, Glen, Editor; Feb. 1996; In English; 28 min. 59 sec. playing time, in color, with sound
Report No(s): NASA-TM-111390; JSC-1549; NONP-NASA-VT-96-1996036745; No Copyright; Avail: CASI: C01, DVD

In this post flight presentation video for the STS-72 mission, the flight crew, Cmdr. Brian Duffy, Pilot Brent Jett, and Mission Specialists Daniel T. Barry, Winston E. Scott, Leroy Chiao, and Koichi Wakata (NASDA), discuss their mission using flight footage and slides. The pre-launch and launching activities are shown. Using the robot arm inside the space shuttle's cargo bay, the Japanese Space Flyer Unit (SFU) is retrieved and berthed and the Office of Aeronautics and Space Technology (OAST) Flyer satellite is deployed, retrieved, and reberthed. Chiao and Barry performed the first of the two 6 1/2 hour EVAs and Chiao and Scott performed the second. In both EVAs, the thermal properties of the new space suits were tested, along with new tools and equipment that will eventually be used to build the International Space Station. Space shuttle landing activities are also shown. Earth views include cloud shadows, Africa, Brazil, Australia, and Mt. Kilimanjaro.
CASI
Extravehicular Activity; Space Transportation System; Space Transportation System Flights; Spacecrews; Space Shuttle Missions; Space Shuttle Payloads; Scientific Satellites; Japanese Spacecraft; Spaceborne Experiments; Space Shuttle Orbiters; Payload Delivery (STS); Payload Retrieval (STS)

19960025965 NASA Johnson Space Center, Houston, TX USA
STS-74 Post Flight Presentation
Dec. 08, 1995; In English; 39 min. 12 sec. playing time, in color, with sound
Report No(s): NASA-TM-111374; JSC-1538; NONP-NASA-VT-96-1996031303; No Copyright; Avail: CASI: C01, DVD

Th flight crew of the STS-74 Space Shuttle Orbiter Atlantis (Cmdr. Ken Cameron, Pilot Jim Halsell, and Mission Specialists Chris Hadfield, Jerry Ross, and William McArthur) present an overview of their flight mission, whose primary objective was the rendezvous and space docking with the Russian Mir Space Station. Video film footage includes: prelaunch and launch activities; shuttle launch; installation of the Russian-made docking module to the orbiter; in-orbit rendezvous; in-orbit docking between Mir and the orbiter; general crew activities; transfer of supplies, equipment, and a crystal growth experiment to Mir; data collection of Mir thruster firings; undocking maneuvers and Mir fly around; pre-return checkout of flight systems; and reentry and landing of the orbiter. Earth views include horizon sunsets, atmospheric boundary layers, and a variety of geographical location footage (New Orleans; Atlanta; James Bay, Canada; Poland; Turkey; Mt. Pinatubo, Philippines; Salt Lake City, Utah; and Colorado).
CASI
Atlantis (Orbiter); Manned Space Flight; Space Transportation System; Spacecraft Docking; Spacecraft Launching; Orbital Rendezvous; Mir Space Station; Spaceborne Experiments; Flight Crews; Cosmonauts; Astronauts

19960025966 NASA Johnson Space Center, Houston, TX USA
Challenger Anniversary Resource Tape
1996; In English; 32 min. 50 sec. playing time, in color, with sound
Report No(s): NASA-TM-111373; JSC-1531A; NONP-NASA-VT-96-1996031302; No Copyright; Avail: CASI: C01, DVD

This commemorative video marks the tenth anniversary, January 28, 1986, of the ninth Challenger flight and the seven astronauts onboard who died when the Challenger exploded 73 seconds into flight. The flight crew was comprised of Cmdr. Francis R. Scobee, Pilot Michael J. Smith, and Mission Specialists Judith A. Resnik, Ellison S. Onizuka, Ronald E. McNair, Gregory Jarvis (Hughes Aircraft representative), and S. Christie McAuliffe (teacher). The flight crew is shown performing preflight training, physiological tests, environmental tests, press conferences, prelaunch activities, and launch activities. The Challenger explosion is shown from both the launch site and from the control center. Various rescue operations, news coverage, and shots of the wreckage after salvage are also presented. President Ronald Reagan is shown giving a tribute at the memorial service for the flight crew. The video ends with a flyby salute and pictures of each of the members of the Challenger.
CASI
Challenger (Orbiter); Space Shuttle Missions; Space Transportation System Flights; Flight Crews; Aerial Explosions; Spacecraft Launching; Astronauts; Space Transportation System

19960025990 NASA Johnson Space Center, Houston, TX USA
STS-75 Flight Day 15
Mar. 07, 1996; In English; 11 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-111403; BRF-1391O; NONP-NASA-VT-96-1996037070; No Copyright; Avail: CASI: C01, DVD

On this fifteenth day of the STS-75 mission, the flight crew, Cmdr. Andrew Allen, Pilot Scott Horowitz, Payload Cmdr.

Franklin Chang-Diaz, Payload Specialist Umberto Guidoni (Italy), and Mission Specialists Jeffrey Hoffman, Maurizio Cheli (ESA) and Claude Nicollier (ESA), are shown performing various experiments. Chang-Diaz gives a short presentation about the importance of protein crystals and their use in research. A water vapor exhaust test is performed with the shuttle's exhaust jets. Earth views include land and water masses, the horizon, and there are views of the shuttle's cargo bay.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Spaceborne Experiments; Space Shuttle Missions; Space Shuttle Payloads; Columbia (Orbiter); Earth Observations (From Space); Space Communication; Microgravity

19960025991 NASA Johnson Space Center, Houston, TX USA
STS-75 Flight Day 13
Mar. 05, 1996; In English; 14 min. 12 sec. playing time, in color, with sound
Report No(s): NASA-TM-111402; BRF-1391M; NONP-NASA-VT-96-1996037048; No Copyright; Avail: CASI: C01, DVD

On this thirteenth day of the STS-75 mission, the flight crew, Cmdr. Andrew Allen, Pilot Scott Horowitz, Payload Cmdr. Franklin Chang-Diaz, Payload Specialist Umberto Guidoni (Italy), and Mission Specialists Jeffrey Hoffman, Maurizio Cheli (ESA) and Claude Nicollier (ESA), are shown conducting combustion and burn experiments. The flight crew is interviewed by news reporters from USA and Europe via a satellite hookup. Earth views include clouds and storm systems. A view of the lost, free-flying tethered satellite is shown.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Tethered Satellites; Space Shuttle Missions; Space Shuttle Payloads; Columbia (Orbiter); Space Communication; Spaceborne Experiments; Earth Observations (From Space)

19960025992 NASA Johnson Space Center, Houston, TX USA
STS-75 Flight Day 12
Mar. 04, 1996; In English; 16 min. playing time, in color, with sound
Report No(s): NASA-TM-111401; BRF-1391L; NONP-NASA-VT-96-1996037047; No Copyright; Avail: CASI: C01, DVD

On this twelfth day of the STS-75 mission, the flight crew, Cmdr. Andrew Allen, Pilot Scott Horowitz, Payload Cmdr. Franklin Chang-Diaz, Payload Specialist Umberto Guidoni (Italy), and Mission Specialists Jeffrey Hoffman, Maurizio Cheli (ESA) and Claude Nicollier (ESA), are shown being interviewed via satellite hookup by reporters. Cheli, through the demonstration of a simple experiment, explains a simple acceleration physics concept. Middeck Glovebox burn and combustion experiments are also shown. Earth views include Italy, other land masses, some cloud cover, a sunrise, and horizon shots.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Spaceborne Experiments; Microgravity; Space Communication; Space Shuttle Missions; Space Shuttle Payloads; Columbia (Orbiter)

19960025993 NASA Johnson Space Center, Houston, TX USA
STS-75 Flight Day 11
Mar. 03, 1996; In English; 17 min. playing time, in color, with sound
Report No(s): NASA-TM-111400; BRF-1391K; NONP-NASA-VT-96-1996037046; No Copyright; Avail: CASI: C01, DVD

On this eleventh day of the STS-75 mission, the flight crew, Cmdr. Andrew Allen, Pilot Scott Horowitz, Payload Cmdr. Franklin Chang-Diaz, Payload Specialist Umberto Guidoni (Italy), and Mission Specialists Jeffrey Hoffman, Maurizio Cheli (ESA) and Claude Nicollier (ESA), are shown conducting combustion experiments in the Middeck Glovebox station, conducting physiological tests, and performing a variety of daily activities (eating, exercising, etc.). Horowitz, Cheli, and Guidoni are interviewed by Voice of America via satellite hookup and they answered general questions regarding the mission, experiments, and the lost tethered satellite. Earth views include a sunrise and some cloud cover.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Columbia (Orbiter); Spaceborne Experiments; Space Shuttle Missions; Space Shuttle Payloads; Earth Observations (From Space); Space Communication; Voice of America

19960025994 NASA Johnson Space Center, Houston, TX USA

STS-69 Mission Highlights Resource Tape

Dec. 19, 1995; In English; 55 min. 35 sec. playing time, in color, with sound

Report No(s): NASA-TM-111389; JSC-1527; NONP-NASA-VT-96-1996036744; No Copyright; Avail: CASI: C01, DVD

The STS-69 mission of the Endeavour Space Shuttle and crew are highlighted in this video. The 'Dog Crew', as they called themselves, Cmdr. Dave Walker, Pilot Ken Cockrell, and Mission Specialists Mike Gernhardt, Jim Voss, and Jim Newman, are shown performing pre-launch and launch activities; the SPARTAN-201 and the Wake Shield Facility (WSF) deployments, retrievals, and berthings; physiological and other Middeck experiments; and jet thruster firing tests on the WSF. A 6 1/2 hour EVA was conducted to test the thermal properties of the new space suits and to test the tools and equipment to be used in the construction of the International Space Station. General crew activities are also shown and Earth views include cloud cover and the WSF with the Earth as the background.

CASI

Spartan Satellites; Spacecrews; Space Transportation System; Endeavour (Orbiter); Extravehicular Activity; Spaceborne Experiments; Space Transportation System Flights; Space Shuttle Missions; Space Shuttle Payloads; Rocket Engines

19960025995 NASA Johnson Space Center, Houston, TX USA

STS-72 Flight Day 2

Jan. 12, 1996; In English; 30 min. playing time, in color, with sound

Report No(s): NASA-TM-111387; BRF-1389B; NONP-NASA-VT-96-1996034086; No Copyright; Avail: CASI: C01, DVD

On this second day of the STS-72 mission, the flight crew, Cmdr. Brian Duffy, Pilot Brent W. Jett, and Mission Specialists Leroy Chiao, Daniel T. Berry, Winston E. Scott, and Koichi Wakata (NASDA), awakened to music from the motion picture 'Stars Wars'. The crew performed a systems checkout, prepared for the retrieval of the Japanese Space Flyer Unit (SFU), tested the spacesuits for the EVA, and activated some of the secondary experiments. An in-orbit news interview was conducted with the crew via satellite downlinking. Questions asked ranged from the logistics of the mission to the avoidance procedures the Endeavour Orbiter performed to miss hitting the inactive Air Force satellite, nicknamed 'Misty' (MSTI). Earth views included cloud cover, several storm systems, and various land masses with several views of the shuttle's open cargo bay in the foreground.

CASI

Space Transportation System; Space Transportation System Flights; Endeavour (Orbiter); Flight Crews; Space Shuttle Missions; Earth Observations (From Space); Computer Systems Performance; Checkout; Space Communication

19960026002 NASA Johnson Space Center, Houston, TX USA

STS-76 Flight Day 3

Mar. 24, 1996; In English; 30 min. playing time, in color, with sound

Report No(s): NASA-TM-111415; BRF-1393C; NONP-NASA-VT-96-1996039900; No Copyright; Avail: CASI: C01, DVD

On this third day of the STS-76 mission, the flight crew, Cmdr Kevin P. Chilton, Pilot Richard A. Searfoss, and Mission Specialists Shannon W. Lucid, Linda M. Godwin, and Ronald M. Sega, are shown performing the docking maneuvers for the Mir Space Station and the Atlantis in-orbit rendezvous. The Atlantis crew is shown greeting the Mir cosmonaut crew, Cmdr. Yuri Onufrienko and Flight Engineer Yuri Usahev. The docking procedure is shown from both outside and inside the Atlantis. An interview with Mission Control is shown from inside Mir with both crews present. There is footage of the Mir, both docked with Atlantis and free flying. Not shown is the EVA by Clifford and Godwin to attach several experimental packages to the exterior of the Mir docking module, although their packing preparation is shown.

CASI

Space Transportation System Flights; Space Transportation System; Spacecraft Docking; Mir Space Station; Spacecraft Maneuvers

19960026003 NASA Johnson Space Center, Houston, TX USA

STS-76 Flight Day 5

Mar. 29, 1996; In English; 30 min. playing time, in color, with sound

Report No(s): NASA-TM-111413; BRF-1393E; NONP-NASA-VT-96-1996039898; No Copyright; Avail: CASI: C01, DVD

On this fifth day of the STS-76 mission, the flight crew, Cmdr. Kevin P. Chilton, Pilot Richard A. Searfoss, and Mission Specialists Shannon W. Lucid, Linda M. Godwin, Michael R. Clifford, and Ronald M. Sega, pay tribute to the late astronaut

Bob Overmeyer with views from the Atlantis/Mir configuration with the Earth in the background. Atlantis astronauts, interviewed by reporters from NASA Centers and Russia during an in-orbit press conference, describe their observations of Comet Hyakutake as it continues its close pass by Earth, remarking on the comet's brilliance and visibility. The astronauts and cosmonauts also took time out from their transfer and resupply activities to talk with Charlie Gibson of 'Good Morning America'.
CASI
Space Transportation System Flights; Space Transportation System; Comets; News Media

19960026004 NASA Johnson Space Center, Houston, TX USA
STS-76 Flight Day 6
Mar. 30, 1996; In English; 30 min. playing time, in color, with sound
Report No(s): NASA-TM-111412; BRF-1393F; NONP-NASA-VT-96-1996039896; No Copyright; Avail: CASI: C01, DVD

On this sixth day of the STS-76 mission, the flight crew, Cmdr. Kevin P. Chilton, Pilot Richard A. Searfoss, and Mission Specialists Shannon W. Lucid, Linda M. Godwin, Michael R. Clifford, and Ronald M. Sega are shown preparing for Godwin and Clifford's extra vehicular activity (EVA). The two astronauts are shown egressing from the Shuttle and performing activities during the EVA with the Earth in the background. Godwin and Clifford spent six hours spacewalking in Atlantis' cargo bay and on the exterior of the Mir's docking module. They are shown completing all of the objectives planned for the spacewalk, the most important of which was to install on the exterior of Mir four experiments to monitor the space environment for the next year and a half. This marks the first time that a spacewalk was conducted from a docked Space Shuttle. A variety of new tools capable of being used on both US and Russian spacecraft were evaluated during the spacewalk.
CASI
Space Transportation System; Space Transportation System Flights; Space Shuttles; Extravehicular Activity

19960026005 NASA Johnson Space Center, Houston, TX USA
STS-76 Flight Day 7
Mar. 31, 1996; In English; 30 min. playing time, in color, with sound
Report No(s): NASA-TM-111411; BRF-1393G; NONP-NASA-VT-96-1996039895; No Copyright; Avail: CASI: C01, DVD

On this seventh day of the STS-76 mission, the flight crew, Cmdr. Kevin P. Chilton, Pilot Richard A Searfoss, and Mission Specialists Linda M. Godwin, Michael R. Clifford, and Ronald M. Sega are shown bidding the Mir crew and Shannon W. Lucid an emotional farewell, Chilton calling it 'a bittersweet moment.' The Atlantis and Mir commanders, Chilton and Onufrienko, along with spacewalkers Godwin and Clifford took time out to talk with CBS' 'Up to the Minute.' The space flyers discussed the success of their joint mission and the 6-hour spacewalk. The astronauts and cosmonauts exchanged handshakes and hugs in the Mir core module, and then praised both mission control centers, Houston and Kaliningrad for their support throughout the joint phase of the mission.
CASI
Space Transportation System Flights; Space Transportation System; Crew Procedures (Inflight); News Media

19960026017 NASA Johnson Space Center, Houston, TX USA
STS-73 Post Flight Presentation
Dec. 15, 1995; In English; 28 min. 45 sec. playing time, in color, with sound
Report No(s): NASA-TM-111375; JSC-1529; NONP-NASA-VT-96-1996031304; No Copyright; Avail: CASI: C01, DVD

The post flight presentation of the STS-73 Space Shuttle's USA Microgravity Lab. (USML) mission was presented by the flight crew, Cmdr. Kenneth Bowersox, Pilot Kent Rominger, Payload Specialists Albert Sacco and Fred Gregory, and Mission Specialists Kathryn Thornton, Catherine 'Cady' Collman, and Michael Lopez-Alegria, using color video and slides. Film footage includes the prelaunch and launch activities, the USML and Middeck experiments (Advanced Protein Crystallization Facility (APCF), the Astroculture(tm) (ASC) hardware and experiment, the Commercial Generic Bioprocessing Apparatus (CGBA), the Crystal Growth Furnace (CGF), the Drop Physics Module (DPM), the Geophysical Fluid Flow Cell (GFFC), the Glovebox (GBX), the Zeolite Crystal Growth (ZCG) experiment, the Surface Tension Driven Convection Experiment (STDCE), the Protein Crystal Growth (PCG) experiment, three Measuring Microgravity experiments (the Space Acceleration Measurement System (SAMS), the Three Dimensional Microgravity Accelerometer (3DMA), and the Orbital Acceleration Research Experiment (OARE)), and the High-Packed Digital Television (HI-PAC) demonstration system), pre-return flight systems checkout, reentry, and space shuttle landing. The USML experiments were monitored via the HI-PAC system

downlink. Earth views included mostly geographical locations (Mediterranean Sea; Turkey; Lake Powell, Arizona/Utah area; San Francisco Bay; Baltimore, Maryland; Washington, DC; India; Tibet; China; Bhutan; Philadelphia; and the Himalayas).
CASI
Space Shuttle Orbiters; Space Transportation System Flights; Flight Crews; Space Shuttle Missions; Spacelab; Microgravity; Spaceborne Experiments; Earth Observations (From Space); Digital Television; Downlinking; Television Systems; Space Transportation System

19960026028 NASA Johnson Space Center, Houston, TX USA
STS-75 Flight Day 2
Feb. 23, 1996; In English; 10 min. 8 sec. playing time, in color, with sound
Report No(s): NASA-TM-111392; BRF-1391B; NONP-NASA-VT-96-1996037037; No Copyright; Avail: CASI: C01, DVD

On this second day of the STS-75 mission, the flight crew, Cmdr. Andrew Allen, Pilot Scott Horowitz, Payload Cmdr. Franklin Chang-Diaz, Payload Specialist Umberto Guidoni (Italy), and Mission Specialists Jeffrey Hoffman, Maurizio Cheli (ESA) and Claude Nicollier (ESA), are shown, via satellite-downlinking, online with Dan Golden, the Director of NASA, discussing the mission and performing system set-ups. A problem with the 'Smart Flex' computer system develops and the crew spends most of the day trying to fix the problem with the help of Mission Control. Earth views include cloud cover, various land and water masses, and Earth's Arctic regions.
CASI
Space Transportation System; Space Transportation System Flights; Columbia (Orbiter); Spacecrews; International Cooperation; Spaceborne Experiments; Space Shuttle Missions; Spacecraft Electronic Equipment

19960026029 NASA Johnson Space Center, Houston, TX USA
STS-72 Flight Day 1
Jan. 11, 1996; In English; 28 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-111243; BRF-1389A; NONP-NASA-VT-96-1996034087; No Copyright; Avail: CASI: C01, DVD

On this first day of the STS-72 mission, the flight crew, Cmdr. Brian Duffy, Pilot Brent W. Jett, and Mission Specialists Leroy Chiao, Daniel T. Berry, Winston E. Scott, and Koichi Wakata (NASDA), were shown in prelaunch and launch activities. This was the tenth flight of the Space Shuttle Orbiter Endeavour. The primary objectives of this mission were the retrieval of the Japanese Space Flyer Unit (SFU) spacecraft, the deployment and retrieval of the NASA Office of Aeronautics and Space Technology Flyer (OAST-FLYER) spacecraft, and two 6 1/2 hour spacewalks to test hardware and tools that will be used to assemble the International Space Station. Secondary objectives included the Shuttle Solar Backscatter Ultraviolet (SSBUV-8), the Shuttle Laser Altimeter GAS(5) (SLA-01/GAS(5)), the National Institutes of Health-R3 (NIH-R3), the Space Tissue Loss (STL/NIH-C), and Thermal Energy Storage (TES-2) experiments. Get-Away-Specials (GAS) included the USAF Academy G-342 Flexible Beam Experiment (FLEXBEAM-2), the Society of Japanese Aerospace Companies G-459 Protein Crystal Growth Experiments, and the Jet Propulsion Laboratory (JPL) GAS Ballast Can with Sample Return Experiment. This night launch was shown at various angles and distances from the launching pad.
CASI
Get Away Specials (STS); Endeavour (Orbiter); Space Transportation System; Flight Crews; Space Transportation System Flights; Spaceborne Experiments; Spacecraft Launching; Payload Retrieval (STS); Japanese Spacecraft; Scientific Satellites

19960026030 NASA Johnson Space Center, Houston, TX USA
STS-72 Flight Day 3
Jan. 13, 1996; In English; 31 min. playing time, in color, with sound
Report No(s): NASA-TM-111386; BRF-1389C; NONP-NASA-VT-96-1996034085; No Copyright; Avail: CASI: C01, DVD

On this third day of the STS-72 mission, the flight crew, Cmdr. Brian Duffy, Pilot Brent W. Jett, and Mission Specialists Leroy Chiao, Daniel T. Barry, Winston E. Scott, and Koichi Wakata (NASDA),awakened to a traditional Japanese song, 'Sea in Springtime'. Wakata, using the shuttle's robot arm, successfully retrieved the Japanese Space Flyer Unit (SFU) satellite and berthed it in the shuttle's cargo bay. Duffy and Wakata were interviewed, via satellite, by Japanese journalists and reporters in Houston, Texas. Earth views include cloud cover, storm systems, Africa and several other land masses.
CASI
Space Transportation System; Space Transportation System Flights; Endeavour (Orbiter); Space Shuttle Missions; Payload Retrieval (STS); Remote Manipulator System; Earth Observations (From Space); Space Communication; Flight Crews

19960026035 NASA Johnson Space Center, Houston, TX USA

STS-76 Flight Day 1

Mar. 22, 1996; In English; 22 min. 45 sec. playing time, in color, with sound

Report No(s): NASA-TM-111418; BRF-1393A; NONP-NASA-VT-96-1996039905; No Copyright; Avail: CASI: C01, DVD

On this first day of the STS-76 mission, the flight crew, Cmdr. Kevin P. Chilton, Pilot Richard A Searfoss, and Mission Specialists Shannon W. Lucid, Linda M. Godwin, Michael R. Clifford, and Ronald M. Sega, are shown performing prelaunch and launch activities for the night launch of the Space Shuttle Atlantis. The primary objective of this mission is the third docking between the Mir Space Station and Atlantis and a crew transfer. Lucid will remain onboard the Mir for about four months. Other activities include an EVA by Godwin and Clifford, logistics operations, and scientific research with a SPACEHAB module, some middeck experiments, and a Get Away Special (GAS) canister. Also, almost a ton of equipment and supplies will be transferred to the Mir. Experiments include the Mir Electric Field Characterization (MEFC), European Space Agency (ESA) Biorack life sciences experiment, Queens University Experiment in Liquid Diffusion (QUELD), Optizone Liquid Phase Sintering Experiment (OLIPSE), and a Naval Research Laboratory (NRL) GAS payload Trapped Ions in Space (TRIS), which will measure low-energy particle radiation in the inner magnetosphere. This mission also will include a KidSat, a prototype of Earth viewing cameras and instruments, that allow students in grades K-12 to see and direct the capture of pictures from space. Footage from Mission control is also included.

CASI

Space Transportation System Flights; Space Shuttles; Spacecrews; Spacecraft Docking; Spacelab Payloads; Mir Space Station

19960026036 NASA Johnson Space Center, Houston, TX USA

STS-75 Flight Day 14

Mar. 06, 1996; In English; 17 min. 30 sec. playing time, in color, with sound

Report No(s): NASA-TM-110453; BRF-1391N; NONP-NASA-VT-96-1996037049; No Copyright; Avail: CASI: C01, DVD

On this fourteenth day of the STS-75 mission, the flight crew, Cmdr. Andrew Allen, Pilot Scott Horowitz, Payload Cmdr. Franklin Chang-Diaz, Payload Specialist Umberto Guidoni (Italy), and Mission Specialists Jeffrey Hoffman, Maurizio Cheli (ESA) and Claude Nicollier (ESA), are shown conducting material burn tests and physiological experiments. Earth views include cloud cover, sunrise, atmospheric boundary layer, Florida, Amazon River, Brazil coast line, and the Pacific Ocean.

CASI

Space Transportation System; Space Transportation System Flights; Spacecrews; Physiological Tests; Spaceborne Experiments; Combustion Physics; Space Shuttle Missions; Space Shuttle Payloads; Columbia (Orbiter); Earth Observations (From Space)

19960026037 NASA Johnson Space Center, Houston, TX USA

STS-75 Flight Day 10

Mar. 02, 1996; In English; 14 min. playing time, in color, with sound

Report No(s): NASA-TM-111399; BRF-1391J; NONP-NASA-VT-96-1996037045; No Copyright; Avail: CASI: C01, DVD

On this tenth day of the STS-75 mission, the flight crew, Cmdr. Andrew Allen, Pilot Scott Horowitz, Payload Cmdr. Franklin Chang-Diaz, Payload Specialist Umberto Guidoni (Italy), and Missions Specialists Jeffrey Hoffman, Maurizio Cheli (ESA), and Claude Nicollier (ESA), are shown performing middeck and Microgravity lab experiments, including the Material pour l'Etude des Phenomenes Interessant la Solidification sur Terre et en Orbite (MEPHISTO) experiment, as well as some material burn tests. Earth views include cloud cover and horizon shots.

CASI

Space Transportation System Flights; Spacecrews; Space Transportation System; Microgravity; Space Shuttle Missions; Space Shuttle Payloads; Columbia (Orbiter); Spaceborne Experiments; Earth Observations (From Space)

19960026038 NASA Johnson Space Center, Houston, TX USA

STS-75 Flight Day 6

Feb. 27, 1996; In English; 18 min. 30 sec. playing time, in color, with sound

Report No(s): NASA-TM-110452; BRF-1391F; NONP-NASA-VT-96-1996037041; No Copyright; Avail: CASI: C01, DVD

On this sixth day of the STS-75 mission, the flight crew, Cmdr. Andrew Allen, Pilot Scott Horowitz, Payload Cmdr. Franklin Chang-Diaz, Payload Specialist Umberto Guidoni (Italy), and Mission Specialists Jeffrey Hoffman, Maurizio Cheli

(ESA) and Claude Nicollier (ESA), are shown performing experiments from the USA Microgravity Payload-3 (USMP-3). Mission Control continues to update the flight crew regarding the status of the free orbiting tethered satellite and the few experiments that they were able to start-up onboard the satellite. There is an in-orbit question and answer interview with the astronauts by a group of sixth graders from a West Virginia school. Earth views include water masses and horizon shots.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Tethered Satellites; Microgravity; Space Communication; Space Shuttle Missions; Space Shuttle Payloads; Columbia (Orbiter); Spaceborne Experiments

19960026039 NASA Johnson Space Center, Houston, TX USA
STS-76 Flight Day 4
Mar. 25, 1996; In English; 30 min. playing time, in color, with sound
Report No(s): NASA-TM-111414; BRF-1393D; NONP-NASA-VT-96-1996039899; No Copyright; Avail: CASI: C01, DVD
On this fourth day of the STS-76 mission, the flight crew, Cmdr. Kevin P. Chilton, Pilot Richard A. Searfoss, and Mission Specialists Shannon W. Lucid, Linda M. Godwin, Michael R. Clifford, and Ronald M. Sega, are shown performing various experiments on the Middeck and transferring supplies to the Mir Space Station. Godwin explains the European Space Agency (ESA) Biorack investigations. Chilton, Lucid and Mir Cmdr. Yuri Onufnenko talk with NASA Administrator Dan Goldin via satellite link. Lucid will be joining the cosmonauts, Onufnenko and Flight Engineer Yuri Usachev, for a 140 day mission on the Mir.
CASI
Space Transportation System; Space Transportation System Flights; Mir Space Station; Spaceborne Experiments

19960026040 NASA Johnson Space Center, Houston, TX USA
STS-76 Flight Day 8
Apr. 01, 1996; In English; 26 min. playing time, in color, with sound
Report No(s): NASA-TM-111410; BRF-1393H; NONP-NASA-VT-96-1996039881; No Copyright; Avail: CASI: C01, DVD
On this eighth day of the STS-76 mission, the flight crew, Cmdr. Kevin P. Chilton, Pilot Richard A. Searfoss, and Mission Specialists Linda M. Godwin, Michael R. Clifford, and Ronald M. Sega are shown undocking from the Mir Space Station. With Mir some 60 nautical miles behind them, the Atlantis astronauts prepared for the return to Earth. Chilton, Searfoss and Clifford perform a routine checkout of Atlantis' flight control surfaces and a hotfire test of the orbiter's reaction control system jets. Views include the undocking maneuver; Atlantis as seen from the Mir Space Station; Atlantis' fly-round of Mir; and the firing of the Reaction Control System (RCS) primary thrusters.
CASI
Space Transportation System Flights; Space Transportation System; Mir Space Station; Crew Procedures (Inflight); Flight Control; Maneuverable Spacecraft

19960028531 NASA Johnson Space Center, Houston, TX USA
STS-72 Mission Highlights Resource Tape
Mar. 01, 1996; In English; 54 min. 29 sec. playing time, in color, with sound
Report No(s): NASA-TM-111518; JSC-1551; NONP-NASA-VT-96-1996047711; No Copyright; Avail: CASI: C01, DVD
The flight crew of the STS-72 Space Shuttle Orbiter Endeavour Cmdr. Brian Duffy, Pilot Brent W. Jett, and Mission Specialists; Leroy Chiao, Daniel T. Barry, Winston E. Scott, and Koichi Wakata (NASDA) present an overview of their mission, whose primary objective is the retrieval of two research satellites. The major activities of the mission will include retrieval of the Japanese Space Flyer Unit (SFU), which was launched aboard a Japanese H-2 rocket to conduct a variety of microgravity experiments. In addition, the STS-72 crew will deploy the AST-Flyer, a satellite, that will fly free of the Shuttle for about 50 hours. Four experiments on the science platform will operate autonomously before the satellite is retrieved by Endeavour's robot arm. Three of Endeavour's astronauts will conduct a pair of spacewalks during the mission to test hardware and tools that will be used in the assembly of the Space Station. Video footage includes the following: prelaunch and launch activities; the crew eating breakfast; shuttle launch; retrieval of the Japanese Space Flyer Unit (SFU); suit-up and EVA-1; EVA-2; crew members performing various physical exercises; various earth views; and the night landing of the shuttle at KSC.
CASI
Space Transportation System; Endeavour (Orbiter); Physical Exercise; Microgravity; Gravitational Effects; Extravehicular Activity

19960028533 NASA Johnson Space Center, Houston, TX USA
STS-76 Post Flight Press Conference
Apr. 15, 1996; In English; 22 min. playing time, in color, with sound
Report No(s): NASA-TM-111515; JSC-1568; NONP-NASA-VT-96-1996047714; No Copyright; Avail: CASI: C01, DVD

The flight crew of the STS-76 Space Shuttle Orbiter Atlantis; Cmdr. Kevin P. Chilton, Pilot Richard A. Searfoss, and Mission Specialists Linda M. Godwin, Michael R. Clifford, and Ronald M. Sega present an overview of thier mission. Highlights STS-76 include the first spacewalk by U.S. astronauts while the shuttle is attached to the Russian Space Station Mir, and the transfer of Shannon W. Lucid to the Mir-21 crew, the first American woman to serve as a Mir station researcher. She will remain aboard the orbiting station until Atlantis again docks with Mir in early August. Video footage includes the following: prelaunch and launch activities; shuttle launch; in-orbit rendezous; in-orbit docking between Mir and the orbiter; general crew activities; tranfer of supplies; Godwin and Clifford's EVA; undocking maneuvers; and the re-entry and landing of the orbiter.

CASI

Space Transportation System Flights; Spacecraft Launching; Spacecraft Docking; Mir Space Station; Extravehicular Activity

19960028548 NASA Johnson Space Center, Houston, TX USA
STS-77 Flight Day 10
May 28, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111617; BRF-1395J; NONP-NASA-VT-96-1996060599; No Copyright; Avail: CASI: C01, DVD

On this tenth day of the STS-77 mission, the flight crew, Cmdr. John H. Casper, Pilot Curtis L. Brown, Jr., and Mission Specialists Andrew S.W. Thomas, Ph.D., Daniel W. Bursch, Mario Runco, Jr., and Marc Garneau, Ph.D., perform a routine check of the shuttle's flight control surfaces and reaction control system jets, wrap up work with a number of scientific investigations, and begin securing the cabin for the trip back to Earth. Most experiments aboard the shuttle have been completed and stowed away, although a few will operate throughout the night and be deactivated once the crew wakes. Crew members Andy Thomas, a native of Australia, and Marc Garneau, a Canadian, each receive special greetings today as STS-77 nears its end. South Australia Premier Dean Brown called Thomas with congratulations early this morning as the shuttle passed above Brown's office in Adelaide, Australia, Thomas' hometown. Later, Canadian Prime Minister Jean Chretien called Garneau to congratulate him on the mission and the joint Canadian Space Agency and NASA experiments that were conducted.

CASI

Space Transportation System Flights; Flight Control; Jet Control; Control Surfaces

19960028549 NASA Johnson Space Center, Houston, TX USA
STS-77 Flight Day 9
May 27, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111616; BRF-1395I; NONP-NASA-VT-96-1996060598; No Copyright; Avail: CASI: C01, DVD

On this ninth day of the STS-77 mission, the flight crew, Cmdr. John H. Casper, Pilot Curtis L. Brown, Jr., and Mission Specialists Andrew S.W. Thomas, Ph.D., Daniel W. Bursch, Mario Runco, Jr., and Marc Garneau, Ph.D., make the third rendezvous with the small aerodynamically stabilized satellite. Commander John Casper and Pilot Curt Brown guided Endeavour to just under 2,000 feet from the cylindrically shaped Passive Aerodynamically Stabilized Magnetically Damped Satellite Satellite Test Unit (PMS-STU). It was deployed from a small canister in Endeavour's payload bay earlier in the mission in an unstable, slightly tumbling attitude to observe how or whether it could stabilize itself without using satellite lifetime-limiting propellants. Casper was scheduled to take time out during the final phase of the rendezvous to talk to fellow astronaut Shannon Lucid and her two cosmonaut crewmates aboard the Russian Space Station Mir. Various views of the Earth can be seen.

CASI

Space Transportation System Flights; Aerodynamic Stability; Attitude (Inclination); Mir Space Station

19960028570 NASA Johnson Space Center, Houston, TX USA
STS-77 Flight Day 7
May 25, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111614; BRF-1395G; NONP-NASA-VT-96-1996060596; No Copyright; Avail: CASI: C01, DVD

On this seventh day of the STS-77 mission, the flight crew, Cmdr. John H. Casper, Pilot Curtis L. Brown, Jr., and Mission Specialists Andrew S.W. Thomas, Ph.D., Daniel W. Bursch, Mario Runco, Jr., and Marc Garneau, Ph.D., return to the small, cylindrical PAMS-STU satellite and begin eight hours of station-keeping about 1,800 feet away. The second rendezvous with the Passive Aerodynamically Stabilized Magnetically Damped Satellite (PAMS) begins shortly after the crew is awakened by the song 'Down Under' performed by Men At Work, in honor of Australian-born Mission Specialist Andy Thomas. For several hours Commander John Casper and Pilot Curt Brown perform a series of thruster firings which allow Endeavor to close in on the 2 foot by 3 foot satellite. The rendezvous takes place as other crewmembers monitor ongoing science experiments in the Spacehab module and on the middeck of the orbiter.
CASI
Space Transportation System Flights; Stationkeeping

19960028571 NASA Johnson Space Center, Houston, TX USA
STS-77 Flight Day 3
May 20, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-110124; BRF-1395C; NONP-NASA-VT-96-1996060592; No Copyright; Avail: CASI: C01, DVD

On this third day of the STS-77 mission, the flight crew, Cmdr. John H. Casper, Pilot Curtis L. Brown, Jr., and Mission Specialists Andrew S.W. Thomas, Ph.D., Daniel W. Bursch, Mario Runco, Jr., and Marc Garneau, Ph.D., can be seen focusing their attention on retrieving the Spartan satellite and returning it to the Shuttle's payload bay. Commander John Casper, Pilot Curt Brown and Mission Specialist Dan Bursch prepared for the rendezvous while Mission Specialists Andy Thomas, Mario Runco and Marc Garneau continued work on the orbiter's middeck and in the Spacehab module. The Inflatable Antenna Experiment (I.A.E) was jettisoned later in the morning and is expected to enter the Earth's atmosphere. This morning's rendezvous is the first of four planned during the mission. Following a series of jet firings, Endeavor approachs within a distance of about 30 feet from Spartan, where Garneau can be seen extending the ship's robot arm to grapple the satellite for its berthing back on its payload bay platform.
CASI
Space Transportation System Flights; Inflatable Spacecraft; Inflatable Structures; Deployment

19960028572 NASA Johnson Space Center, Houston, TX USA
STS-77 Flight Day 1
May 19, 1996; In English; 16 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110122; BRF-1395A; NONP-NASA-VT-96-1996060590; No Copyright; Avail: CASI: C01, DVD

On this first day of the STS-77 mission, the flight crew, Cmdr. John H. Casper, Pilot Curtis L. Brown, Jr., and Mission Specialists Andrew S.W. Thomas, Ph.D., Daniel W. Bursch, Mario Runco, Jr., and Marc Garneau, Ph.D., can be seen preforming pre-launch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew can be seen being readied in the 'white room' for their mission. After the closing of the hatch and arm retraction, launch activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters. Following an on-time launch, the crew of Endeavor are shown setting up a variety of experiments that will operate for much of the mission.
CASI
Space Transportation System Flights; Spacecrews; Launching; Ignition

19960028575 NASA Johnson Space Center, Houston, TX USA
STS-74 Mission Highlights Resource Tape
Apr. 08, 1996; In English; 59 min. 42 sec. playing time, in color, with sound
Report No(s): NASA-TM-111516; JSC-1540; NONP-NASA-VT-96-1996047713; No Copyright; Avail: CASI: C01, DVD

The flight crew of the STS-74 Space Shuttle Orbiter Atlantis Cmdr. Ken Cameron, Pilot Jim Halsell, and Mission Specialists Chris Hadfield, Jerry Ross, and William McArthur present an overview of their flight mission, whose primary objective is the rendezvous and space docking with the Russian Mir Space Station. Video film footage includes the following: prelaunch and launch activities; shuttle launch; in-orbit rendezvous; installation of the Russian-made docking module; in-orbit docking between Mir and the orbiter; general crew activities; transfer of supplies, equipment, and a crystal growth experiment to Mir; data collection from Mir thruster firings; undocking maneuvers and a Mir fly around; pre-return checkout of flight systems; and the reentry and landing of the orbiter. Earth views include horizon sunsets, atmospheric boundary layers, and a

variety of geographical location footage (New Orleans; Atlanta; James Bay, Canada; Poland; Turkey; Mt. Pinatubo, Philippines; Salt Lake City, Utah; and Colorado).
CASI
Space Transportation System Flights; Spacecraft Launching; Orbital Rendezvous; Mir Space Station; Spacecraft Docking

19960028598 NASA Johnson Space Center, Houston, TX USA
STS-77 Flight Day 8
May 30, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111615; BRF-1395H; NONP-NASA-VT-96-1996060597; No Copyright; Avail: CASI: C01, DVD

On this eighth day of the STS-77 mission, the flight crew, Cmdr. John H. Casper, Pilot Curtis L. Brown, Jr., and Mission Specialists Andrew S.W. Thomas, Ph.D., Daniel W. Bursch, Mario Runco, Jr., and Marc Garneau, Ph.D., take time out from their schedule to discuss the progress of the mission with reporters. Casper said the flight has been highly successful so far, having accomplished all of the goals. Mission Specialists Dan Bursch and Andy Thomas described protein crystal growth and plant growth experiments being conducted throughout the flight in the Spacehab module. And Mario Runco discussed testing soft drink samples in the Fluids Generic Bioprocessing Apparatus.
CASI
Space Transportation System Flights; Protein Crystal Growth; Vegetation Growth

19960028599 NASA Johnson Space Center, Houston, TX USA
STS-77 Flight Day 6
May 24, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-110127; BRF-1395F; NONP-NASA-VT-96-1996060595; No Copyright; Avail: CASI: C01, DVD

On this sixth day of the STS-77 mission, the flight crew, Cmdr. John H. Casper, Pilot Curtis L. Brown, Jr., and Mission Specialists Andrew S.W. Thomas, Ph.D., Daniel W. Bursch, Mario Runco, Jr., and Marc Garneau, Ph.D., spend some time relaxing, then go back to working in the Spacehab module and preparing to revisit a small cylindrical satellite that they deployed on the mission’s third day. Commander John Casper and Pilot Curt Brown monitor Endeavor’s systems. Mission Specialist Mario Runco tests an attitude determination system using the GPS attitude and navigation experiment called GANE. The remaining crew members Mission Specialists Andy Thomas, Dan Bursch and Marc Garneau monitor the health of experiments ongoing in the Spacehab and on the middeck of the orbiter. The crew also conduct a health check of the Aquatic Research Facility (ARF) which contains starfish, mussels and sea urchins.
CASI
Space Transportation System Flights; Sea Urchins; Global Positioning System; Attitude Control; Attitude (Inclination); Spacelab

19960028600 NASA Johnson Space Center, Houston, TX USA
STS-77 Flight Day 5
May 23, 1996; In English; 14 min. 49 sec. playing time, in color, with sound
Report No(s): NASA-TM-110126; BRF-1395E; NONP-NASA-VT-96-1996060594; No Copyright; Avail: CASI: C01, DVD

On this fifth day of the STS-77 mission, the flight crew, Cmdr. John H. Casper, Pilot Curtis L. Brown, Jr., and Mission Specialists Andrew S.W. Thomas, Ph.D., Daniel W. Bursch, Mario Runco, Jr., and Marc Garneau, Ph.D., spend the first half of their workday assisting payload controllers with investigations into materials processing of samples and the growth of crystals. The progress of starfish and mussel development in a spaceborne aquarium in the Spacehab module in the Shuttle’s cargo bay is seen. The crew then move off in different directions to support work with many of the experiments that make up the fourth mission of the Spacehab pressurized module. Endeavor is about 64 miles away from the Passive Aerodynamically Stabilized Magnetically Damped Satellite-Satellite Test Unit, or PAMS-STU, which was deployed from a canister in the payload bay on day four. Since mission day five coincided with Memorial Day , the crew started the ‘Indy 500’ from earth orbit.
CASI
Space Transportation System Flights; Deployment; Crystal Growth; Earth Orbits; Inflatable Spacecraft

19960028601 NASA Johnson Space Center, Houston, TX USA

STS-77 Flight Day 4

May 22, 1996; In English; 14 min. 58 sec. playing time, in color, with sound

Report No(s): NASA-TM-110125; BRF-1395F; NONP-NASA-VT-96-1996060593; No Copyright; Avail: CASI: C01, DVD

On this forth day of the STS-77 mission, the flight crew, Cmdr. John H. Casper, Pilot Curtis L. Brown, Jr., and Mission Specialists Andrew S.W. Thomas, Ph.D., Daniel W. Bursch, Mario Runco, Jr., and Marc Garneau, Ph.D., turned their attention to the deployment of a small technology demonstration satellite known as PAMS. The Passive Aerodynamically Stabilized Magnetically-damped Satellite uses aerodynamic stabilization to orient itself properly and demonstrates a technique that could prolong the lifetime of a satellite by reducing or eliminating the requirement for attitude control propellants. After Mission Specialist Mario Runco deploys the satellite from a canister in the rear of Endeavor's payload bay, it drifts away from the orbiter in a rotating, unstable attitude by design to evaluate how quickly and effectively the spacecraft can stabilize itself using the aerodynamic stabilization method rather than by thrusters. Later in the day the crew is seen being interviewed by Canadian Television.

CASI

Space Transportation System Flights; Deployment; Payloads; Attitude (Inclination); Attitude Control

19960028602 NASA Johnson Space Center, Houston, TX USA

STS-77 Flight Day 2

May 20, 1996; In English; 14 min. 45 sec. playing time, in color, with sound

Report No(s): NASA-TM-110123; BRF-1395B; NONP-NASA-VT-96-1996060591; No Copyright; Avail: CASI: C01, DVD

On this second day of the STS-77 mission, the flight crew, Cmdr. John H. Casper, Pilot Curtis L. Brown, Jr., and Mission Specialists Andrew S.W. Thomas, Ph.D., Daniel W. Bursch, Mario Runco, Jr., and Marc Garneau, Ph.D., are seen deploying the Spartan satellite for its 24 hour free flight away from Endeavor to test new inflatable antenna technology. The inflation procedure begins as the shuttle and antenna pass over New Mexico, Southern California, the Grand Canyon, Appalachian Mountains, and coast of Virginia. The inflation takes about 5 minutes, bringing the antenna to its full size of 90 feet by 50 feet. After an hour and a half, the antenna was to be jettisoned from the Spartan.

CASI

Space Transportation System Flights; Deployment; Inflatable Structures; Inflatable Spacecraft

19960028622 NASA Johnson Space Center, Houston, TX USA

STS-73 Mission Highlights Resource Tape

Apr. 11, 1996; In English; 59 min. 6 sec. playing time, in color, with sound

Report No(s): NASA-TM-111517; JSC-1531; NONP-NASA-VT-96-1996047712; No Copyright; Avail: CASI: C01, DVD

The flight crew of the STS-73 Space Shuttle Orbiter Columbia Cmdr. Kenneth D. Bowersox, Pilot Kent V. Rominger, Payload Commander Kathryn C. Thornton, Mission Specialists Catherine G. Coleman Ph.D, and Michael E. Lopez-Alegria, and Payload Specialists Fred W. Leslie Ph.D, Albert Sacco Jr Ph.D, David H. Matthiesen Ph.D, and R. Glynn Holt Ph.D present an overview of their mission. This, the second USA Microgravity Laboratory (USML) Spacelab mission, is the centerpiece of the STS-73 Space Shuttle mission. Some of the experiments being carried on the USML-2 payload cover a variety of scientific disciplines including fluid physics, materials science, biotechnology and combustion science. Video footage includes the following: prelaunch and launch activities; various Spacelab experiments; and reentry and the landing of the Columbia at KSC.

CASI

Space Transportation System Flights; Spacelab; Space Missions; Biotechnology; Combustion; Fluid Dynamics; Microgravity

19960028623 NASA Johnson Space Center, Houston, TX USA

STS-47 Post Flight Press Conference

[1992]; In English; 17 min. playing time, in color, with sound

Report No(s): NASA-TM-111519; JSC-1278; NONP-NASA-VT-96-1996047710; No Copyright; Avail: CASI: C01, DVD

The flight crew of the STS-47 Space Shuttle Orbiter Endeavour Cmdr. Robert L. Gibson, Pilot Curtis L. Brown, Payload Cmdr. Mark C. Lee, Mission Specialists, N. Jan Davis, Jay Apt, Mae C. Jemison, and Payload Specialist, Mamoru Mohri, present an overview of their mission. This the 50th Shuttle flight marks the first NASA mission devoted primarily to Japan. Endeavour carries into Earth orbit Spacelab-J (SL-J), a 23-foot long pressurized laboratory built by the European Space

Agency specifically for conducting experiments in a shirt-sleeve environment. SL-J contains 43 experiments, 34 provided by Japan, 7 from the USA and 2 joint experiments. Jemison becomes the first African American woman to fly in space and Mohri first Japanese to fly in space. Video footage includes the following: prelaunch and launch activities; various experiments including protein crystal growth, electronic materials, fluids, glasses and ceramics, metals and alloys, and the effects of microgravity on plants and animals; earth views of Japan, Tokyo Harbor, and Hurricane Bonnie; and the re-entry and landing of the orbiter.
CASI
Space Transportation System Flights; Spacelab; Space Shuttle Orbiters; Protein Crystal Growth; Microgravity; Ceramics

19960029041 NASA Johnson Space Center, Houston, TX USA
STS-72 Flight Day 4
Jan. 14, 1996; In English; 40 min. playing time, in color, with sound
Report No(s): NASA-TM-111385; BRF-1389D; NONP-NASA-VT-96-1996034084; No Copyright; Avail: CASI: C01, DVD

On this fourth day of the STS-72 mission, the flight crew, Cmdr. Brian Duffy, Pilot Brent W. Jett, and Mission Specialists Leroy Chiao, Daniel T. Berry, Winston E. Scott, and Koichi Wakata (NASDA), deployed the OAST-Flyer satellite which well perform two days of scientific investigations, checked out the space tools that they will be testing during their two planned spacewalks, and conducted the secondary middeck experiments. The host, Tom Miller, from NBC's Nightside' show, interviewed the astronauts from Charlotte, NC via satellite link. Views include the Japanese Space Flyer Unit (SFU) satellite in its berth in the shuttle's cargo bay with the Earth in the background, Earth cloud cover , and various shots of the shuttle's cargo bay.
CASI
Space Transportation System; Space Transportation System Flights; Space Shuttle Missions; Endeavour (Orbiter); Flight Crews; Scientific Satellites; Deployment; Spaceborne Experiments; Checkout; Earth Observations (From Space)

19960049980 NASA Johnson Space Center, Houston, TX USA
STS-78 Flight Day 3
Jun. 22, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111648; BRF-1397C; NONP-NASA-VT-96-1996085865; No Copyright; Avail: CASI: C01, DVD

On this third day of the STS-78 mission, the flight crew, Cmdr. Terence T. Henricks, Pilot Kevin R. Kregel, Payload Cmdr. Susan J. Helms, Mission Specialists Richard M. Linnehan, Charles E. Brady, Jr., and Payload Specialists Jean-Jacques Favier, Pd.D. and Robert B. Thirsk, M.D., are shown performing human physiology tests that include the Direct Measurement of the Initial Bone Response to Space Flight. Various members of the crew can be seen exercising on the bicycle ergometer cardiovascular system.
CASI
Space Transportation System Flights; Physical Exercise; Ergometers; Cardiovascular System; Bones

19960049981 NASA Johnson Space Center, Houston, TX USA
STS-78 Flight Day 14
Jul. 03, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111670; BRF-1397N; NONP-NASA-VT-96-1996085854; No Copyright; Avail: CASI: C01, DVD

On this fourteenth day of the STS-78 mission, the flight crew, Cmdr. Terence T. Henricks, Pilot Kevin R. Kregel, Payload Cmdr. Susan J. Helms, Mission Specialists Richard M. Linnehan, Charles E. Brady, Jr., and Payload Specialists Jean-Jacques Favier, Pd.D. and Robert B. Thirsk, M.D., are shown communicating with two cosmonauts and fellow astronaut Shannon Lucid on Russia's Space Station Mir. During this communication link the two crews participate in a special event surrounding the celebration of the Olympics, including a conversation with Billy Payne, a member of the Atlanta Olympic Organizing Committee. Payne congratulated the crews of Mir and Columbia.
CASI
Space Transportation System Flights; Communication Networks; Communicating; Space Flight; Space Missions; Spacelab

19960049982 NASA Johnson Space Center, Houston, TX USA
STS-78 Flight Day 13
Jul. 02, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111669; BRF-1397M; NONP-NASA-VT-96-1996085855; No Copyright; Avail: CASI: C01, DVD

On this thirteenth day of the STS-78 mission, the flight crew, Cmdr. Terence T. Henricks, Pilot Kevin R. Kregel, Payload Cmdr. Susan J. Helms, Mission Specialists Richard M. Linnehan, Charles E. Brady, Jr., and Payload Specialists Jean-Jacques Favier, Pd.D. and Robert B. Thirsk, M.D., begin another day of scientific investigations on board Columbia as the Life and Microgravity Spacelab mission continues its endurance record. The seven crew members continue supporting a variety of experiments investigating the effects of microgravity on the human body. Studies looking at muscle strength and energy expenditure and pulmonary function continue throughout the day, as well as the processing of advanced semiconductor materials and alloys in the Advanced Gradient Heating Facility. In an interview with the NBC News, Mission Commander Tom Henricks is shown discussing Columbia's flight and the varied experiments that are being conducted on board. Crew members are shown participating in tests that measure their performance.
CASI
Space Transportation System Flights; Spacelab; Semiconductors (Materials); Pulmonary Functions; Microgravity; Human Body

19960049983 NASA Johnson Space Center, Houston, TX USA
STS-78 Flight Day 11
Jun. 30, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111656; BRF-1397K; NONP-NASA-VT-96-1996085857; No Copyright; Avail: CASI: C01, DVD

On this eleventh day of the STS-78 mission, the flight crew, Cmdr. Terence T. Henricks, Pilot Kevin R. Kregel, Payload Cmdr. Susan J. Helms, Mission Specialists Richard M. Linnehan, Charles E. Brady, Jr., and Payload Specialists Jean-Jacques Favier, Pd.D. and Robert B. Thirsk, M.D., are shown conducting a news conference to discuss the progress of the international mission with media from the USA, Canada and Europe. During the press conference, the crew explained the relevance of the experiments conducted aboard the Life Sciences and Microgravity mission, and praised support crews and researchers on Earth who are involved in the mission. Payload Specialist Dr. Robert Thirsk told Canadian journalists of how the research will not only benefit astronauts as they conduct long-term space missions, but also people on Earth. Some of the research will aid studies on osteoporosis and the affects steroids have on bones, and also may help doctors on Earth develop treatments for muscle diseases like muscular dystrophy, Thirsk told reporters in Toronto.
CASI
Space Transportation System Flights; Microgravity; Muscles; Diseases; Bioastronautics; Pulmonary Functions; Human Body; Human Behavior; Bones

19960050035 NASA Johnson Space Center, Houston, TX USA
STS-78 Flight Day 7
Jun. 26, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111652; BRF-1397G; NONP-NASA-VT-96-1996085861; No Copyright; Avail: CASI: C01, DVD

On this seventh day of the STS-78 mission, the flight crew, Cmdr. Terence T. Henricks, Pilot Kevin R. Kregel, Payload Cmdr. Susan J. Helms, Mission Specialists Richard M. Linnehan, Charles E. Brady, Jr., and Payload Specialists Jean-Jacques Favier, Pd.D. and Robert B. Thirsk, M.D., continue as test subjects in a series of investigations that seek to understand the effects of microgravity on the human musculoskeletal system. As they approach the half-way mark of a possible record-setting Space Shuttle mission, the crew of Columbia continues its full schedule of life science and microgravity experiments.
CASI
Space Transportation System Flights; Space Missions; Musculoskeletal System; Microgravity; Life Sciences; Gravitational Effects

19960050036 NASA Johnson Space Center, Houston, TX USA
STS-78 Flight Day 6
Jun. 25, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111651; BRF-1397F; NONP-NASA-VT-96-1996085862; No Copyright; Avail: CASI: C01, DVD

On this sixth day of the STS-78 mission, the flight crew, Cmdr. Terence T. Henricks, Pilot Kevin R. Kregel, Payload Cmdr.

Susan J. Helms, Mission Specialists Richard M. Linnehan, Charles E. Brady, Jr., and Payload Specialists Jean-Jacques Favier, Pd.D. and Robert B. Thirsk, M.D., are shown performing status checks on the life and microgravity experiments and conducting a brief maintenance procedure to correct an electrical circuit problem in the Bubble Drop Particle Unit. On this day, the crew is given four hours off to relax after five days of work with the life and microgravity science investigation being conducted on board.
CASI
Space Transportation System Flights; Microgravity; Gravitational Effects

19960050038 NASA Johnson Space Center, Houston, TX USA
STS-78 Flight Day 10
Jun. 29, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111655; BRF-1397J; NONP-NASA-VT-96-1996085858; No Copyright; Avail: CASI: C01, DVD

On this tenth day of the STS-78 mission, the flight crew, Cmdr. Terence T. Henricks, Pilot Kevin R. Kregel, Payload Cmdr. Susan J. Helms, Mission Specialists Richard M. Linnehan, Charles E. Brady, Jr., and Payload Specialists Jean-Jacques Favier, Pd.D. and Robert B. Thirsk, M.D., continue to perform in a nearly flawless fashion. The crew is shown completing another of four tests focusing on the effects of microgravity on the vestibular system in the inner ear. In space, the vestibular system sometimes becomes confused as to which way is up and down, leading to nausea and disorientation. Using specially designed head gear to monitor head movement and eye coordination, Linnehan, Brady, Favier, Thirsk and Helms performed tests throughout their shifts to determine how the head and eyes track visual and motion targets in microgravity. The study, is providing scientists with important information about the crews' ability to adapt to microgravity.
CASI
Space Transportation System Flights; Eye (Anatomy); Coordination; Disorientation; Head Movement; Microgravity; Nausea; Spacelab

19960050039 NASA Johnson Space Center, Houston, TX USA
STS-78 Flight Day 9
Jun. 28, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111654; BRF-1397I; NONP-NASA-VT-96-199685859; No Copyright; Avail: CASI: C01, DVD

On this ninth day of the STS-78 mission, the flight crew, Cmdr. Terence T. Henricks, Pilot Kevin R. Kregel, Payload Cmdr. Susan J. Helms, Mission Specialists Richard M. Linnehan, Charles E. Brady, Jr., and Payload Specialists Jean-Jacques Favier, Pd.D. and Robert B. Thirsk, M.D., continue to serve as test subjects for a host of human health and microgravity investigations. The tests concentrate on measurements of lung capacity and muscle strength. In addition, the crew is shown continuing to operate and maintain the experiment equipment.
CASI
Space Transportation System Flights; Muscles; Microgravity; Lungs; Spacelab

19960050047 NASA Johnson Space Center, Houston, TX USA
STS-78 Flight Day 4
Jun. 23, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111649; BRF-1397D; NONP-NASA-VT-96-1996085864; No Copyright; Avail: CASI: C01, DVD

On this fourth day of the STS-78 mission, the flight crew, Cmdr. Terence T. Henricks, Pilot Kevin R. Kregel, Payload Cmdr. Susan J. Helms, Mission Specialists Richard M. Linnehan, Charles E. Brady, Jr., and Payload Specialists Jean-Jacques Favier, Pd.D. and Robert B. Thirsk, M.D., discuss the flight during an interview with the Cable News Network (CNN). The crew then continues research concentrated on the Torque Velocity Dynamometer measurements of leg and arm muscle power, the Astronaut Lung Function Experiment, and effects of microgravity exercise with the bicycle ergometer and its associated instruments.
CASI
Space Transportation System Flights; Physical Exercise; Muscles; Microgravity; Lungs; Ergometers; Dynamometers

19960050092 NASA Johnson Space Center, Houston, TX USA

STS-78 Flight Day 15

Jul. 04, 1996; In English; 15 min. playing time, in color, with sound

Report No(s): NASA-TM-111671; BRF-1397P; NONP-NASA-VT-96-1996085853; No Copyright; Avail: CASI: C01, DVD

On this fifteenth day of the STS-78 mission, the forth of July, Cmdr. Terence T. Henricks, Pilot Kevin R. Kregel, Payload Cmdr. Susan J. Helms, Mission Specialists Richard M. Linnehan, Charles E. Brady, Jr., and Payload Specialists Jean-Jacques Favier, Pd.D. and Robert B. Thirsk, M.D., are awakened with Bruce Springsteen's Born in the USA,' and Lee Greenwood's I'm Proud to be an American' to begin another a day on orbit. Mission Commander Tom Henricks responded to Mission Control's wake up call by saying that the five US-born crew members were very proud to be Americans, particularly on the day America celebrates its 220th anniversary. Work in the Spacelab module will continue with investigations into the effects of microgravity on muscle strength and endurance, lung function, and adaptation of the neurovestibular system to a microgravity environment. Henricks and Pilot Kevin Kregel will complete work with a laptop computer designed to test the crew's critical thinking skills and reaction time. They also will test a voice control system that allows them to reposition Columbia's closed-circuit television cameras with verbal cues, keeping their hands free to perform other tasks.

CASI

Space Transportation System Flights; Spacelab; Spacecrews; Microgravity; Lungs

19960050095 NASA Johnson Space Center, Houston, TX USA

STS-78 Post Flight Presentation

Jul. 23, 1996; In English; 15 min. playing time, in color, with sound

Report No(s): NASA-TM-110468; JSC-1589; NONP-NASA-VT-96-1996085850; No Copyright; Avail: CASI: C01, DVD

The flight crew of the STS-78 mission, Cmdr. Terence T. Henricks, Pilot Kevin R. Kregel, Payload Cmdr. Susan J. Helms, Mission Specialists Richard M. Linnehan, Charles E. Brady, Jr., and Payload Specialists Jean-Jacques Favier, Pd.D. and Robert B. Thirsk, M.D., back from their seventeen day mission, offer a video and still photo presentation of their journey. Included in the presentation are pre-launch, launch, and post-launch activities; experiments performed in the Spacelab; and re-entry; and the landing at KSC. Each of the STS-78 crew members discuss particular aspects of the mission including the 22 LMS life science and microgravity experiments. The experiments address human physiology, metallic alloys and protein crystal growth, and the study of the behavior of fluids and materials processing in the near-weightless environment of space.

CASI

Space Transportation System; Spacelab; Protein Crystal Growth; Microgravity; Gravitational Effects; Life Sciences; Space Flight; Space Missions

19960050096 NASA Johnson Space Center, Houston, TX USA

STS-78 Flight Day 17

Jul. 06, 1996; In English; 15 min. playing time, in color, with sound

Report No(s): NASA-TM-110467; BRF-1397R; NONP-NASA-VT-96-1996085851; No Copyright; Avail: CASI: C01, DVD

On this seventeenth day of the STS-78 mission, the flight crew, Cmdr. Terence T. Henricks, Pilot Kevin R. Kregel, Payload Cmdr. Susan J. Helms, Mission Specialists Richard M. Linnehan, Charles E. Brady, Jr., and Payload Specialists Jean-Jacques Favier, Pd.D. and Robert B. Thirsk, M.D., are shown conducting routine firings of the orbiter's reaction control system jets and checking out its flight control systems and aero surfaces in anticipation of the planned landing at the Kennedy Space Center. Commander Tom Henricks and Pilot Kevin Kregel successfully fire Columbia's 44 reaction control system jets and then tests the aero surfaces that will be used during Columbia's high speed re-entry. This firings procedure is part of a test to prove a concept that may be used on Space Shuttle Discovery's next mission -- STS-82 -- to service the Hubble Space Telescope. The vernier jet firings should raise the orbit without disturbing any payloads on board, or in the case of the Hubble Space Telescope, without placing any force on the telescope's fragile solar arrays.

CASI

Space Transportation System Flights; Space Missions; Space Shuttles; Jet Control; Flight Control

19960050097 NASA Johnson Space Center, Houston, TX USA

STS-78 Flight Day 1

Jun. 21, 1996; In English; 15 min. playing time, in color, with sound

Report No(s): NASA-TM-111646; BRF-1397A; NONP-NASA-VT-96-1996085867; No Copyright; Avail: CASI: C01, DVD

On this first day of the STS-78 mission, the flight crew, Cmdr. Terence T. Henricks, Pilot Kevin R. Kregel, Payload Cmdr. Susan J. Helms, Mission Specialists Richard M. Linnehan, Charles E. Brady, Jr., and Payload Specialists Jean-Jacques Favier, Pd.D. and Robert B. Thirsk, M.D., can be seen preforming pre-launch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew can be seen being readied in the white room' for their mission. After the closing of the hatch and arm retraction, launch activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters. Henricks shares a unique view of Columbia's climb to orbit with flight controllers from a small camera that was mounted on the flight deck. The video follows Columbia's flight from just before main engine start through main engine cutoff, showing the force of main engine and solid booster ignition as experienced by the astronauts.

CASI

Space Transportation System Flights; Launching; Flight Control; Countdown; Climbing Flight; Astronauts

19960050098 NASA Johnson Space Center, Houston, TX USA

STS-78 Flight Day 2

Jun. 21, 1996; In English; 15 min. playing time, in color, with sound

Report No(s): NASA-TM-111647; BRF-1397B; NONP-NASA-VT-96-1996085866; No Copyright; Avail: CASI: C01, DVD

On this second day of the STS-78 flight, mission controllers wake the flight crew, Cmdr. Terence T. Henricks, Pilot Kevin R. Kregel, Payload Cmdr. Susan J. Helms, Mission Specialists Richard M. Linnehan, Charles E. Brady, Jr., and Payload Specialists Jean-Jacques Favier, Pd.D. and Robert B. Thirsk, M.D., with 'Free Falling' a song by Tom Petty. Crew members are then shown working with various neurological and cardiovascular experiments inside the Spacelab.

CASI

Space Transportation System Flights; Cardiovascular System; Flight Control; Neurology; Spacelab

19960050102 NASA Johnson Space Center, Houston, TX USA

STS-78 Flight Day 5

Jun. 24, 1996; In English; 15 min. playing time, in color, with sound

Report No(s): NASA-TM-111650; BRF-1397E; NONP-NASA-VT-96-199685863; No Copyright; Avail: CASI: C01, DVD

On this fifth day of the STS-78 mission, the flight crew, Cmdr. Terence T. Henricks, Pilot Kevin R. Kregel, Payload Cmdr. Susan J. Helms, Mission Specialists Richard M. Linnehan, Charles E. Brady, Jr., and Payload Specialists Jean-Jacques Favier, Pd.D. and Robert B. Thirsk, M.D., are shown in the Spacelab conducting microgravity research. They concentrate on the use of the gradient furnace and the Bubble Drop Particle Unit to study process of manufacturing materials in microgravity , and on studies of human muscles and balance mechanisms. Also, Brady, Thirsk, Linnehan, and Favier conduct musculoskeletal tests that measure arm and hand-grip strength.

CASI

Space Transportation System Flights; Spacelab; Musculoskeletal System; Muscles; Microgravity; Manufacturing; Furnaces

19960050104 NASA Johnson Space Center, Houston, TX USA

STS-78 Flight Day 16

Jul. 05, 1996; In English; 15 min. playing time, in color, with sound

Report No(s): NASA-TM-111672; BRF-1397Q; NONP-NASA-VT-96-199685852; No Copyright; Avail: CASI: C01, DVD

On this sixteenth day of the STS-78 mission, the flight crew, Cmdr. Terence T. Henricks, Pilot Kevin R. Kregel, Payload Cmdr. Susan J. Helms, Mission Specialists Richard M. Linnehan, Charles E. Brady, Jr., and Payload Specialists Jean-Jacques Favier, Pd.D. and Robert B. Thirsk, M.D., are shown continuing their scientific investigations in the Spacelab module. Todays work focuses on how the astronauts' bodies are responding to the microgravity environment after more than two weeks in orbit. The payload crew will continue studies in the adaptation of the neurovestibular system and the musculoskeletal system during spaceflight.

CASI

Space Transportation System Flights; Spacelab; Space Flight; Musculoskeletal System; Microgravity

19960050105 NASA Johnson Space Center, Houston, TX USA

STS-78 Flight Day 8

Jun. 27, 1996; In English; 15 min. playing time, in color, with sound

Report No(s): NASA-TM-111653; BRF-1397H; NONP-NASA-VT-96-1996085860; No Copyright; Avail: CASI: C01, DVD

On this eighth day of the STS-78 mission, the flight crew, Cmdr. Terence T. Henricks, Pilot Kevin R. Kregel, Payload Cmdr. Susan J. Helms, Mission Specialists Richard M. Linnehan, Charles E. Brady, Jr., and Payload Specialists Jean-Jacques Favier, Pd.D. and Robert B. Thirsk, M.D., continue to conduct experiments primarily focusing on the effects of weightlessness on human physiology. Results from the studies of muscle activity, task performance, and sleep will help future mission planners organize crew schedules for greater efficiency and productivity. For a second consecutive day, Henricks, Kregel, Thirsk, and Favier continue to enter responses to a battery of problem-solving tasks on the Performance Assessment Work Station, a laptop computer.

CASI

Space Transportation System Flights; Sleep; Productivity; Problem Solving; Payloads; Muscular Function; Human Performance; Activity (Biology)

19960050106 NASA Johnson Space Center, Houston, TX USA

STS-78 Flight Day 12

Jul. 01, 1996; In English; 15 min. playing time, in color, with sound

Report No(s): NASA-TM-111668; BRF-1397L; NONP-NASA-VT-96-1996085856; No Copyright; Avail: CASI: C01, DVD

On this twelfth day of the STS-78 mission, the flight crew, Cmdr. Terence T. Henricks, Pilot Kevin R. Kregel, Payload Cmdr. Susan J. Helms, Mission Specialists Richard M. Linnehan, Charles E. Brady, Jr., and Payload Specialists Jean-Jacques Favier, Pd.D. and Robert B. Thirsk, M.D., are awakened by the Canadian national anthem Oh Canada'. This morning, Thirsk is shown delivering a holiday message to Prime Minister Jean Chretien and other dignitaries gathered at Parliament Hill in Ottawa. The crew is than shown celebrating Canada Day' aboard the Space Shuttle. Also this morning, Mission Specialist Susan Helms discusses the progress of Columbia's flight with WBBM Radio in Chicago.

CASI

Space Transportation System Flights; Space Shuttles; Microgravity; Human Body; Human Behavior

19970000500 NASA Johnson Space Center, Houston, TX USA

STS-79 Flight Day 9

Sep. 24, 1996; In English; 15 min. playing time, in color, with sound

Report No(s): NASA-TM-111774; BRF-1399I; NONP-NASA-VT-1996093676; No Copyright; Avail: CASI: C01, DVD

On this ninth day of the STS-79 mission, the flight crew, Cmdr. William F. Readdy, Pilot Terrence W. Wilcutt, Mission Specialists, Thomas D. Akers, Shannon Lucid, Jay Apt, and Carl E. Walz having completed five days of joint operations between the American astronauts and the Russian cosmonauts are seen flying solo once again after undocking from the Mir Space Station. As Atlantis/Mir flew over the Ural Mountains of central Asia, the docking hooks and latches that joined the vehicles together were commanded open and Atlantis drifted slowly away from Mir. Wilcutt then initiated a tail-forward fly-around of the Russian space station. After one and one-half revolutions around Mir, Atlantis' jets were fired in a separation maneuver to enable Atlantis to break away from Mir. On board Atlantis, the six-member crew is settling back into its normal routine with a fairly light schedule for the remainder of the day. Early in the morning as Atlantis flew over the USA, the crew took time to talk with anchors for the CBS Up to the Minute' network news broadcast.

CASI

Space Transportation System Flights; Spacecraft Docking; Mir Space Station; Space Flight; Space Missions

19970000502 NASA Johnson Space Center, Houston, TX USA

STS-79 Flight Day 6

Sep. 21, 1996; In English; 15 min. playing time, in color, with sound

Report No(s): NASA-TM-111769; BRF-1399F; NONP-NASA-VT-1996093680; No Copyright; Avail: CASI: C01, DVD

On this sixth day of the STS-79 mission, the flight crew, Cmdr. William F. Readdy, Pilot Terrence W. Wilcutt, Mission Specialists, Thomas D. Akers, Shannon Lucid, Jay Apt, and Carl E. Walz, continue activities aboard Atlantis/Mir as the nine astronauts and cosmonauts work in their second full day of docked operations. The continuing transfer of logistical supplies and scientific hardware can be seen proceeding smoothly. Apt and Walz once again worked with the Active Rack Isolation

System experiment to replace a broken pushrod. With that complete, Apt monitors the ARIS experiment as Readdy and Korzun fire small maneuvering jets on their spacecraft to test the ability of ARIS to damp out any disturbances created by the firings. Walz also is continuing his work with the Mechanics of Granular Materials experiment in Atlantis' double Spacehab module. The astronauts used the large format IMAX camera to conduct a photographic survey of Mir from the Shuttle's flight deck windows while Akers shot IMAX movie scenes of Readdy, Wilcutt, and Korzun in the Spektr module.
CASI
Space Transportation System Flights; Supplying; Maneuvers; Mir Space Station; Space Flight; Space Shuttle Missions

19970000503 NASA Johnson Space Center, Houston, TX USA
STS-79 Flight Day 4
Sep. 19, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111767; BRF-1399D; NONP-NASA-VT-1996093682; No Copyright; Avail: CASI: C01, DVD

On this fourth day of the STS-79 mission, the flight crew, Cmdr. William F. Readdy, Pilot Terrence W. Wilcutt, Mission Specialists, Thomas D. Akers, John Blaha, Jay Apt, and Carl E. Walz, are seen docking with the Mir Space Station. After two hours of pressure and leak checks, the hatches between the two spacecraft is than opened. The two crews are seen greeting one another to begin five days of joint operations. The rendezvous and docking went flawlessly as Readdy flew the orbiter manually through the final 2,000 feet. Docking occurred within seconds of the pre-planned time and flight controllers reported that only slight oscillations were felt through the Orbiter Docking System as the two spacecraft locked together. Within hours of the hatch opening, crew members John Blaha and Shannon Lucid formally swapped places before going to bed with Blaha becoming a member of the Mir-22 crew and Lucid joining the STS-79 crew to wrap up 179 days as a member of the Mir station. Blaha joins Mir 22 Commander Valery Korzun and Flight Engineer Alexander Kaleri on Mir for the next four months. Soon after the crew members completed their welcoming ceremony, they went to work, hauling bags of water and other supplies from the Shuttle's Spacehab module into the Mir. More than 4000 pounds of equipment and logistical supplies will be transferred to the Mir before Atlantis undocks from the space station.
CASI
Space Transportation System Flights; Spacecraft Docking; Supplying; Mir Space Station; Orbital Rendezvous; Space Shuttle Missions; Space Flight

19970000558 NASA Johnson Space Center, Houston, TX USA
STS-79 Flight Day 10
Sep. 25, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111772; BRF-1399J; NONP-NASA-VT-1996093675; No Copyright; Avail: CASI: C01, DVD

On this tenth day of the STS-79 mission, the flight crew, Cmdr. William F. Readdy, Pilot Terrence W. Wilcutt, Mission Specialists, Thomas D. Akers, Shannon Lucid, Jay Apt, and Carl E. Walz spent the day stowing equipment and deactivating experiments in preparation for the planned landing at Kennedy Space Center (KSC) in Florida. All systems aboard the orbiter were checked out overnight in preparation for landing day, including testing the flight control surfaces and thruster jets that will be used to maneuver the spacecraft through the atmosphere.
CASI
Space Transportation System Flights; Space Shuttle Missions; Space Flight

19970000559 NASA Johnson Space Center, Houston, TX USA
STS-79 Flight Day 8
Sep. 23, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111771; BRF-1399H; NONP-NASA-VT-1996093677; No Copyright; Avail: CASI: C01, DVD

On this eighth day of the STS-79 mission, the flight crew, Cmdr. William F. Readdy, Pilot Terrence W. Wilcutt, Mission Specialists, Thomas D. Akers, Shannon Lucid, Jay Apt, and Carl E. Walz, are seen bidding the crew of Mir farewell and then closing the hatches between their two spacecraft in preparation for undocking. The nine astronauts and cosmonauts gathered in the Core Module of the Russian space station for a formal goodbye. With the official ceremony complete, the crewmembers shared a final meal together and exchanged private farewells as Shannon Lucid prepared to return home in Atlantis and her replacement on Mir, John Blaha, began a four month stay on the station. Walz and Apt and Mir 22 Commander Valery Korzun with assistance from Flight Engineer 2 John Blaha, swung the hatches between their spacecraft closed concluding five days

of joint operations. The vestibule between Atlantis and Mir was depressurized and leak checks were performed in readiness for undocking.
CASI
Space Transportation System Flights; Mir Space Station; Space Flight; Space Missions

19970000560 NASA Johnson Space Center, Houston, TX USA
STS-79 Flight Day 1
Sep. 16, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111764; BRF-1399A; NONP-NASA-VT-1996093678; No Copyright; Avail: CASI: C01, DVD

On this first day of the STS-79 mission, the flight crew, Cmdr. William F. Readdy, Pilot Terrence W. Wilcutt, and Mission Specialists, Thomas D. Akers, John E. Blaha, Jay Apt, and Carl E. Walz, can be seen preforming pre-launch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew can be seen being readied in the white room' for their mission. After the closing of the hatch and arm retraction, launch activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters.
CASI
Space Shuttle Missions; Space Missions; Space Flight; Launching; Space Transportation System Flights

19970000585 NASA Johnson Space Center, Houston, TX USA
STS-79 Flight Day 3
Sep. 18, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111766; BRF-1399C; NONP-NASA-VT-1996093683; No Copyright; Avail: CASI: C01, DVD

On this third day of the STS-79 mission, the flight crew, Cmdr. William F. Readdy, Pilot Terrence W. Wilcutt, Mission Specialists, Thomas D. Akers, John E. Blaha, Jay Apt, and Carl E. Walz, start another busy day on orbit activating experiments in the Spacehab module. Readdy and Wilcutt are seen conducting two rendezvous burns while other crew members are seen working in the Spacehab module. The Active Rack Isolation System, or ARIS, is tended to by Walz, who performs a minor maintenance procedure on one of ARIS' vibration-damping pushrods while Akers works with an inventory management system using a bar code reader to more effectively keep track of items that will be transferred back and forth between the Shuttle and the Mir. Apt continues work with a furnace which heats to nearly 1,600 degrees centigrade to melt metal samples for study after the flight. Apt also provides a television tour of the Spacehab, which is twice its normal size for this flight to allow extra room for science experiments and logistical items slated for transfer to Mir.
CASI
Space Transportation System Flights; Vibration Damping; Inventory Management; Space Flight; Space Shuttle Missions

19970000586 NASA Johnson Space Center, Houston, TX USA
STS-79 Flight Day 5
Sep. 20, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111768; BRF-1399E; NONP-NASA-VT-1996093681; No Copyright; Avail: CASI: C01, DVD

On this fifth day of the STS-79 mission, the flight crew, Cmdr. William F. Readdy, Pilot Terrence W. Wilcutt, Mission Specialists, Thomas D. Akers, Shannon Lucid, Jay Apt, and Carl E. Walz, in the first full day of joint Shuttle/Mir operations begin in with the transfer of a biotechnology investigation and logistical supplies from Atlantis to Mir. The Biotechnology System, an investigation that will study the long-term development of cartilage cells in microgravity, was transported to Mir early this morning. During his planned four-month stay on Mir, John Blaha will take weekly samples of the culture which may provide researchers with information on engineering cartilage cells for possible use in transplantation. They also took time out of their schedules to talk with Good Morning America's Elizabeth Vargas in a brief interview. Prior to beginning the day's transfer activities, all nine astronauts and cosmonauts participated in a joint planning session to outline the day's schedule.
CASI
Space Transportation System Flights; Supplying; Biotechnology; Microgravity; Space Flight; Space Missions; Space Navigation; Mir Space Station

19970000587 NASA Johnson Space Center, Houston, TX USA
STS-79 Flight Day 7
Sep. 22, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111770; BRF-1399G; NONP-NASA-VT-1996093679; No Copyright; Avail: CASI: C01, DVD

On this seventh day of the STS-79 mission, the flight crew, Cmdr. William F. Readdy, Pilot Terrence W. Wilcutt, Mission Specialists, Thomas D. Akers, Shannon Lucid, Jay Apt, and Carl E. Walz, share a brief video tour of the Mir Space Station with flight controllers, taking a break from the transfer activities that has occupied the astronauts' time during three days of docked operations. Readdy and Apt floated through several of Mir's modules and back into Atlantis' double Spacehab module during the tour pointing out the numerous transfer items stowed on both spacecraft. Readdy, Wilcutt, Lucid and Blaha are seen discussing their mission in an interview with CNN's John Holliman.
CASI
Space Transportation System Flights; Mir Space Station; Flight Control; Space Flight; Space Missions

19970000590 NASA Johnson Space Center, Houston, TX USA
STS-79 Flight Day 2
Sep. 17, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-111765; BRF-1399B; NONP-NASA-DK-96-1996093684; No Copyright; Avail: CASI: C01, DVD

On this second day of the STS-79 mission, the flight crew, Cmdr. William F. Readdy, Pilot Terrence W. Wilcutt, Mission Specialists, Thomas D. Akers, John E. Blaha, Jay Apt, and Carl E. Walz, are seen in activating the double Spacehab module in the shuttle's payload bay, packing materials and supplies and filling the first four containers of water which will be delivered to the Mir Space Station. Apt and Walz set up the Active Rack Isolation System experiment in the Spacehab, a prototype of an International Space Station payload system designed to eliminate vibrations or disturbances caused by crew activity or engine firings. The double-rack which houses ARIS also contains almost 400 pounds of Russian food which is being used to simulate the weight and mass of a scientific investigation for this first test.
CASI
Space Transportation System Flights; Water; Supplying; Payloads; Space Shuttle Missions

19970005008 NASA Johnson Space Center, Houston, TX USA
STS-78 Mission Highlights Resource Tape
Oct. 09, 1996; In English; 57 min. 41 sec. playing time, in color, with sound
Report No(s): NASA-TM-111828; JSC-1590; NONP-NASA-VT-97-1997005934; No Copyright; Avail: CASI: C01, DVD

The flight crew of the STS-78 mission, Cmdr. Terence T. Henricks, Pilot Kevin R. Kregel, Payload Cmdr. Susan J. Helms, Mission Specialists Richard M. Linnehan, Charles E. Brady, Jr., and Payload Specialists Jean-Jacques Favier, Pd.D. and Robert B. Thirsk, M.D., present a video mission over-view of their space flight. Images include: pre-launch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew can be seen being readied in the white room' for their mission. After the closing of the hatch and arm retraction, launch activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters. Following an on-time launch, the crew of Endeavor are shown setting up a variety of experiments that will operate for much of the mission.
CASI
Space Transportation System Flights; Space Shuttle Orbiters; Spacecrews

19970005009 NASA Johnson Space Center, Houston, TX USA
STS-75 Mission Highlight Resource Tape
Oct. 09, 1996; In English; 56 min. 57 sec. playing time, in color, with sound
Report No(s): NASA-TM-111824; JSC-1566; NONP-NASA-VT-97-1997005930; No Copyright; Avail: CASI: C01, DVD

The flight crew of the STS-75 mission, Cmdr. Andrew M. Allen, Pilot Scott J. Horowitz, Payload Cmdr. Franklin R. Chang-Diaz, Mission Specialists Maurizio Cheli, Jeffrey A. Hoffman, and Claude Nicollier, and Payload Specialist Umberto Guidoni, present a video over-view of their mission. Images include: pre-launch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew can be seen being readied in the white room' for their mission. After the closing of the hatch and arm retraction,

launch activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters (SRB). Also included are views of activities inside the Firing Control Room at KSC.
CASI
Space Transportation System; Spacecrews; Flight Crews; Countdown

19970005032 NASA Johnson Space Center, Houston, TX USA
STS-79 Post Flight Presentation
Oct. 09, 1996; In English; 43 min. 27 sec. playing time, in color, with sound
Report No(s): NASA-TM-111829; JSC-1602; NONP-NASA-VT-97-1997005935; No Copyright; Avail: CASI: C01, DVD

The flight crew of the STS-79 mission, Cmdr. William F. Readdy, Pilot Terrence W. Wilcutt, and Mission Specialists, Thomas D. Akers, John E. Blaha, Jay Apt, and Carl E. Walz, present a video mission over-view of their space flight. Images include: pre-launch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew can be seen being readied in the white room' for their mission. After the closing of the hatch and arm retraction, launch activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters. Following an on-time launch, the crew of Endeavor are shown setting up a variety of experiments that will operate for much of the mission.
CASI
Space Transportation System; Spacecrews; Space Flight; Space Missions; Space Shuttle Missions; Space Transportation System Flights

19970005042 NASA Johnson Space Center, Houston, TX USA
STS-76 Mission Highlights Resource Tape
Oct. 09, 1996; In English; 1 hr. 1 min. 5 sec. playing time, in color, with sound
Report No(s): NASA-TM-111825; JSC-1569; NONP-NASA-VT-97-1997005931; No Copyright; Avail: CASI: C01, DVD

The flight crew of the STS-76 mission, Cmdr. Kevin P. Chilton, Pilot Richard A. Searfoss, and Mission Specialists Shannon W. Lucid, Linda M. Godwin, Michael R. Clifford, and Ronald M. Sega, present a video mission over-view of their space flight. Images include: pre-launch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew can be seen being readied in the white room' for their mission. After the closing of the hatch and arm retraction, launch activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters. Once in orbit, various view of the Mir Space Station can be seen as the shuttle begins its approach and docking. There several views of Godwin and Clifford as they spent six hours spacewalking in Atlantis's cargo bay and on the exterior of the Mir's docking module. The mission ending re-entry and landing can also be seen.
CASI
Space Transportation System; Spacecrews; Spacecraft Docking; Mir Space Station; Flight Crews

19970005043 NASA Johnson Space Center, Houston, TX USA
STS-77 Post Flight Presentation
Oct. 09, 1996; In English; 59 min. playing time, in color, with sound
Report No(s): NASA-TM-111826; JSC-1583; NONP-NASA-VT-97-1997005932; No Copyright; Avail: CASI: C01, DVD

The flight crew of the STS-77 mission, Cmdr. John H. Casper, Pilot Curtis L. Brown, Jr., and Mission Specialists Andrew S.W. Thomas, Ph.D., Daniel W. Bursch, Mario Runco, Jr., and Marc Garneau, Ph.D., present a video mission over-view of their space flight. Images include: pre-launch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew can be seen being readied in the white room' for their mission. After the closing of the hatch and arm retraction, launch activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters. Following an on-time launch, the crew of Endeavor are shown setting up a variety of experiments that will operate for much of the mission. Also seen is the deployment and inflation of the Spartan Satellite, experiments being conducted in the Spacehab module, thruster firing to stabilized the shuttle, and the mission ending re-entry and landing of the shuttle Endeavor. The crew than answers questions from the press.
CASI
Space Transportation System Flights; Space Transportation System; Spacecrews; Launching; Flight Crews

19970005044 NASA Johnson Space Center, Houston, TX USA
STS-77 Mission Highlights Resource Tape
Oct. 09, 1996; In English; 37 min. 45 sec. playing time, in color, with sound
Report No(s): NASA-TM-111827; JSC-1582; NONP-NASA-VT-97-1997005933; No Copyright; Avail: CASI: C01, DVD

The flight crew of the STS-77 mission, Cmdr. John H. Casper, Pilot Curtis L. Brown, Jr., and Mission Specialists Andrew S.W. Thomas, Ph.D., Daniel W. Bursch, Mario Runco, Jr., and Marc Garneau, Ph.D., present a video mission over-view of their space flight. Images include: pre-launch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew can be seen being readied in the white room' for their mission. After the closing of the hatch and arm retraction, launch activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters. Following an on-time launch, the crew of Endeavor are shown setting up a variety of experiments that will operate for much of the mission. Also seen is the deployment and inflation of the Spartan Satellite, experiments being conducted in the Spacehab module, thruster firing to stabilized the shuttle, and the mission ending re-entry and landing of the shuttle Endeavor.
CASI
Space Transportation System Flights; Spacecrews; Space Missions; Flight Crews

19970012038 NASA Johnson Space Center, Houston, TX USA
STS-81 Flight Day 7
Jan. 18, 1997; In English; 10 min. playing time, in color, with sound
Report No(s): NASA-TM-112422; BRF-1403G; NONP-NASA-VT-97-1997021179; No Copyright; Avail: CASI: C01, DVD

On this seventh first day of the STS-81 mission, the flight crew, Cmdr. Michael A. Baker, Pilot Brent W. Jett, Mission Specialists, John M. Grunsfeld, Marsha S. Ivins, Peter J.K. Wisoff, and John Blaha, and the cosmonauts of the Russian Space Station Mir continue to transfer hundreds of pounds of water, supplies, and logistical items to each other's spacecraft. More than 1,300 pounds of water have now been transferred from Atlantis to the Mir to resupply the Russian outpost, along with equipment that will be used by astronaut Jerry M. Linenger during his four-month research mission. A bioprocessing device and an experiment used to grow cartilage cells during astronaut John Blaha's four month stay on the Mir is also transferred to Atlantis for the trip back to Earth. Linenger spends most of the day collecting water samples from the Mir for analysis back on Earth and Blaha continues to exercise on a treadmill on the Mir to stay in shape for his return to Earth and a readaptation to gravity after four months of weightlessness.
CASI
Space Transportation System Flights; Bioprocessing; Adaptation; Gravitation; Mir Space Station; Physical Exercise; Spacecrews; Supplying; Weightlessness

19970012039 NASA Johnson Space Center, Houston, TX USA
STS-81 Flight Day 5
Jan. 16, 1997; In English; 16 min. 5 sec. playing time, in color, with sound
Report No(s): NASA-TM-112420; BRF-1403E; NONP-NASA-VT-97-1997021180; No Copyright; Avail: CASI: C01, DVD

On this fifth day of the STS-81 mission, the flight crew, Cmdr. Michael A. Baker, Pilot Brent W. Jett, Mission Specialists, John M. Grunsfeld, Marsha S. Ivins, Peter J.K. Wisoff, and John Blaha, and the Mir cosmonauts including astronaut Jerry M. Linenger continue with the transfer of food, water and supplies between the two spacecrafts for a second day of joint operations. With both spacecraft in excellent shape, the nine crewmembers float back and forth between Atlantis and the Mir, hauling bags of water, satchels of logistical supplies and experiment hardware. The supplies and hardware will be used by cosmonauts and Linenger during his four months of scientific research aboard the Mir. Linenger, who officially became a Mir crewmember earlier, spends time with his precedessor; John Blaha to get familiar with his new home.
CASI
Space Transportation System Flights; Spacecrews; Supplying; Mir Space Station

19970012041 NASA Johnson Space Center, Houston, TX USA
STS-81 Flight Day 3
Jan. 14, 1997; In English; 14 min. 50 sec. playing time, in color, with sound
Report No(s): NASA-TM-112418; BRF-1403C; NONP-NASA-VT-97-1997021182; No Copyright; Avail: CASI: C01, DVD

On this third day of the STS-81 mission, the flight crew, Cmdr. Michael A. Baker, Pilot Brent W. Jett, Mission Specialists,

John M. Grunsfeld, Marsha S. Ivins, Peter J.K. Wisoff, and Jerry M. Linenger, spend most of their workday completing preparations for the rendezvous and linkup of the Space Shuttle with the Mir Space Station. Pilot Brent Jett finishes the checkout of navigation tools that will be used during the rendezvous. Later he joins John Grunsfeld and they install a camera in the Orbiter Docking System to provide television views of the docking target on the Mir. Commander Mike Baker will use this later as he flies Atlantis to its docking with Mir.
CASI
Space Transportation System Flights; Spacecraft Docking; Mir Space Station; Space Missions

19970012042 NASA Johnson Space Center, Houston, TX USA
STS-80 Flight Day 14
Dec. 03, 1996; In English; 15 min playing time, in color, with sound
Report No(s): NASA-TM-112414; BRF-1401N; NONP-NASA-VT-97-1997021157; No Copyright; Avail: CASI: C01, DVD

On this fourteenth day of the STS-80 mission, the flight crew, Cmdr. Kenneth D. Cockrell, Pilot Kent V. Rominger, Mission Specialists, Tamara E. Jernigan, Thomas D. Jones, and F. Story Musgrave, spend this day working with tools inside the crew cabin. The astronauts answer questions on the status of their mission from reporters at the Johnson Space Center in Houston and the Kennedy Space Center in Florida during a news conference.
CASI
Space Transportation System Flights; Astronauts; Space Exploration; Space Flight; Space Missions

19970012043 NASA Johnson Space Center, Houston, TX USA
STS-81 Flight Day 6
Jan. 17, 1997; In English; 9 min. 28 sec. playing time, in color, with sound
Report No(s): NASA-TM-112421; BRF-1403F; NONP-NASA-VT-97-1997021155; No Copyright; Avail: CASI: C01, DVD

On this sixth day of the STS-81 mission, the flight crew, Cmdr. Michael A. Baker, Pilot Brent W. Jett, Mission Specialists, John M. Grunsfeld, Marsha S. Ivins, Peter J.K. Wisoff, and John Blaha, and the cosmonauts of the Mir Space Station continue to transfer hundreds of pounds of food, water and supplies between each other's spacecraft for a third day. Jerry M. Linenger spent several hours continuing to familiarize himself with his new orbital home, unpacking experiment hardware and helping astronaut John Blaha transfer biomedical samples back to Atlantis for Blaha's trip back to Earth. Blaha is wrapping up his four-month tour of duty in space.
CASI
Space Transportation System Flights; Mir Space Station; Supplying; Space Flight; Space Missions

19970012048 NASA Johnson Space Center, Houston, TX USA
STS-80 Post Flight Presentation
Dec. 05, 1996; In English; 40 min. 45 sec. playing time, in color, with color
Report No(s): NASA-TM-112356; JSC-16130076B; NONP-NASA-VT-97-1997021172; No Copyright; Avail: CASI: C01, DVD

The flight crew of STS-80, Cmdr. Kenneth D. Cockrell, Pilot Kent V. Rominger, Mission Specialists, Tamara E. Jernigan, Thomas D. Jones, and F. Story Musgrave give a post flight presentation of their mission. This presentation is divided into two parts first a slide presentation of still shots, and the second is a video presentation.
CASI
Space Exploration; Manned Space Flight; Space Shuttle Missions; Space Shuttles

19970012049 NASA Johnson Space Center, Houston, TX USA
STS-79 Mission Highlight Presentation
Dec. 05, 1996; In English; 1 hr. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-112355; JSC-1604-0062B; NONP-NASA-VT-97-1997021171; No Copyright; Avail: CASI: C01, DVD

The flight crew of STS-79, Cmdr. William F. Readdy, Pilot Terrence W. Wilcutt, Mission Specialists, Thomas D. Akers, Shannon Lucid, Jay Apt, and Carl E. Walz can be seen performing pre-launch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew can be seen being readied in the 'white room' for their mission. After the closing of the hatch and arm retraction, launch

activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters. STS-79 is the second Shuttle-Mir mission to carry a SPACEHAB module on board, and the first to carry a double module. The forward portion of the double module will house experiments conducted by the crew before, during and after Atlantis is docked to the Russian space station. The aft portion of the double module primarily houses the logistics equipment to be transferred to the Russian space station. Logistics include food, clothing, experiment supplies, and spare equipment for Mir.
CASI
Space Transportation System Flights; Supplying; Space Missions; Mir Space Station; Spacecrews; Logistics; Launching

19970012050 NASA Johnson Space Center, Houston, TX USA
STS-80 Flight Day 2
Nov. 21, 1996; In English; 12 min. 20 sec. playing time, in color, with sound
Report No(s): NASA-TM-112402; BRF-1401B; NONP-NASA-VT-97-1997021169; No Copyright; Avail: CASI: C01, DVD

On this second day of the STS-80 mission, the flight crew, Cmdr. Kenneth D. Cockrell, Pilot Kent V. Rominger, Mission Specialists, Tamara E. Jernigan, Thomas D. Jones, and F. Story Musgrave, complete the first major objective of the mission with the deployment of the Orbiting Retrievable Far and Extreme Ultraviolet Spectrometer (ORFEUS) on the reusable Shuttle Pallet Satellite. Release of ORFEUS from Columbia's robot arm came at 8 hours 15 minutes mission elapsed time. Three hours after the release, ground controllers inform the crew that the instrument package appears to be working properly. This begins two weeks of gathering data on the origin and makeup of stars.
CASI
Space Transportation System Flights; Shuttle Pallet Satellites; Spacecrews; Deployment

19970012051 NASA Johnson Space Center, Houston, TX USA
STS-80 Flight Day 3
Nov. 22, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-112403; BRF-1401C; NONP-NASA-VT-97-1997021168; No Copyright; Avail: CASI: C01, DVD

On this third day of the STS-80 mission, the flight crew, Cmdr. Kenneth D. Cockrell, Pilot Kent V. Rominger, Mission Specialists, Tamara E. Jernigan, Thomas D. Jones, and F. Story Musgrave, are seen preparing for two spacewalks which are to be performed by Jernigan and Jones. Jernigan, Jones and Musgrave inspect the suits, finding everything in excellent condition for the upcoming spacewalks, which will test techniques and equipment that may be used for future construction of the International Space Station.
CASI
Space Transportation System Flights; Spacecrews; Space Exploration; Space Flight; Space Missions

19970012052 NASA Johnson Space Center, Houston, TX USA
STS-80 Flight Day 12
Dec. 01, 1996; In English; 13 min. playing time, in color, with sound
Report No(s): NASA-TM-112412; BRF-1401L; NONP-NASA-VT-97-1997021159; No Copyright; Avail: CASI: C01, DVD

On this twelfth day of the STS-80 mission, the flight crew, Cmdr. Kenneth D. Cockrell, Pilot Kent V. Rominger, Mission Specialists, Tamara E. Jernigan, Thomas D. Jones, and F. Story Musgrave, spend the day discussing the failed hatch with ground controllers. The failure of the hatch to properly open causes the cancellation of the second planned spacewalk by Jernigan and Jones. NASA engineers and managers continue to collect and analyze data on what may be causing the failure. The leading candidate is a misalignment of the hatch against the airlock seal.
CASI
Space Transportation System Flights; Misalignment; Hatches; Failure; Air Locks

19970012053 NASA Johnson Space Center, Houston, TX USA
STS-80 Flight Day 13
Dec. 02, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-112413; BRF-1401M; NONP-NASA-VT-97-199721158; No Copyright; Avail: CASI: C01, DVD

On this thirteenth day of the STS-80 mission, the flight crew, Cmdr. Kenneth D. Cockrell, Pilot Kent V. Rominger, Mission Specialists, Tamara E. Jernigan, Thomas D. Jones, and F. Story Musgrave, are notified that the remaining spacewalks for the mission are to be canceled following extensive ground analysis and testing of the airlock hatch. Mission managers

could not conclusively identify the problem that was causing the hatch to jam, and decided not to risk unnecessary damage to the hatch or seals.
CASI
Space Transportation System Flights; Hatches; Air Locks; Risk; Space Flight; Space Missions

19970012092 NASA Johnson Space Center, Houston, TX USA
STS-81 Flight Day 10
Jan. 20, 1997; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-112425; BRF-1403J; NONP-NASA-VT-97-1997021175; No Copyright; Avail: CASI: C01, DVD

On this tenth day of the STS-81 mission, the flight crew, Cmdr. Michael A. Baker, Pilot Brent W. Jett, Mission Specialists, John M. Grunsfeld, Marsha S. Ivins, Peter J.K. Wisoff, and John Blaha, prepare for the return back to earth. The shuttle's key flight control systems are checked for entry and landing phase of the mission. Commander Mike Baker and Pilot Brent Jett activate one of Atlantis' three hydraulic power units to test the shuttle's aerosurfaces. Baker and Jett fire Atlantis' steering jets in a routine prelanding checkout. The astronauts also test a medical restraint system in the Spacehab module, placing two crewmembers in the device. Crewmembers then begin to stow items away in the crew cabin, initiate the scheduled deactivation of Spacehab systems and associated hardware.
CASI
Space Transportation System Flights; Spacecrews; Landing

19970012093 NASA Johnson Space Center, Houston, TX USA
Galileo Science Update Europa Unveiled
Jan. 17, 1997; In English; 49 min. 48 sec. playing time, in color, with sound
Report No(s): NASA-TM-112354; JSC-1604-0062B; NONP-NASA-VT-97-1997021170; No Copyright; Avail: CASI: C01, DVD

A five person panel discuss newly imaged photographs of the surface of Jupiter's satellite Europa. In the discussion the topics that are covered are: surface features, ice and water formation, erosion, volcanism, thermal dissipation, crustal spreading, plate tectonics, impact sites, exobiology, and life.The run time on this video is 49:48 the air date is 1/17/97.
CASI
Europa; Plates (Tectonics); Volcanology; Exobiology; Ice Formation; Surface Water; Space Exploration

19970012094 NASA Johnson Space Center, Houston, TX USA
STS-80 Flight Day 9
Nov. 28, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-112409; BRF-1401I; NONP-NASA-VT-97-1997021162; No Copyright; Avail: CASI: C01, DVD

On this ninth day of the STS-80 mission, the flight crew, Cmdr. Kenneth D. Cockrell, Pilot Kent V. Rominger, Mission Specialists, Tamara E. Jernigan, Thomas D. Jones, and F. Story Musgrave, begin preparations for two planned spacewalks with the depressurization of the shuttle's cabin from 14.7 pounds per square inch to 10.2 pounds per square inch. This reduces the amount of time Jernigan and Jones will have to prebreath pure oxygen before beginning the spacewalk. The first spacewalk will allow the astronauts to evaluate assembly and maintenance techniques that will be used for construction of the International Space Station.
CASI
Space Transportation System Flights; International Space Station; Pressure Reduction

19970012095 NASA Johnson Space Center, Houston, TX USA
STS-80 Flight Day 15
Dec. 04, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-112415; BRF-1401O; NONP-NASA-VT-97-1997021156; No Copyright; Avail: CASI: C01, DVD

On this fifteenth day of the STS-80 mission, the flight crew, Cmdr. Kenneth D. Cockrell, Pilot Kent V. Rominger, Mission Specialists, Tamara E. Jernigan, Thomas D. Jones, and F. Story Musgrave, are seen performing routine mission operations

including monitoring experiments and discussing their mission during a news conference. The crewmembers again conduct small engine firings to maintain that distance prior to the retrieval of the satellite.
CASI
Space Transportation System Flights; Engine Design; Conferences; Crews

19970012098 NASA Johnson Space Center, Houston, TX USA
STS-81 Flight Day 4
Jan. 15, 1997; In English; 20 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-112419; BRF-1493D; NONP-NASA-VT-97-1997021181; No Copyright; Avail: CASI: C01, DVD

On this fourth day of the STS-81 mission, the flight crew, Cmdr. Michael A. Baker, Pilot Brent W. Jett, Mission Specialists, John M. Grunsfeld, Marsha S. Ivins, Peter J.K. Wisoff, and Jerry M. Linenger, prepare for the fifth linkup of the Space Shuttle and the Mir Space Station. The Atlantis docks with Mir at a point 210 nautical miles above the Earth southeast of Moscow, culminating a three-day rendezvous. Two hours after docking, the hatches between Atlantis and Mir are opened and Baker and Mir 22 Commander Valery Korzun share a hug to mark the start of five days of joint operations between the two crews. After an informal welcoming ceremony in the Mir's core module, the STS-81 crewmembers receive a station safety briefing. Linenger becomes the fourth American to occupy a position on the Russian Space Station following the docking of Atlantis to the outpost. During the docked phase of the mission, the two crews transfer nearly three tons of food, water and supplies to Mir.
CASI
Space Transportation System Flights; Spacecraft Docking; Spacecrews; Mir Space Station; Supplying

19970012099 NASA Johnson Space Center, Houston, TX USA
STS-80 Flight Day 4
Nov. 22, 1996; In English; 13 min. 20 sec. playing time, in color, with sound
Report No(s): NASA-TM-112404; BRF-1401D; NONP-NASA-VT-97-1997021167; No Copyright; Avail: CASI: C01, DVD

On this fourth day of the STS-80 mission, the flight crew, Cmdr. Kenneth D. Cockrell, Pilot Kent V. Rominger, Mission Specialists, Tamara E. Jernigan, Thomas D. Jones, and F. Story Musgrave, busily begin final preparations for the release of Wake Shield. Jones powers up the shuttle's Canadian-built robot arm and grapples the satellite, while Jernigan powers up the Orbiter Space Vision System, which will be used to track precisely the Wake Shield's location. Cockrell places Columbia in a gravity gradient attitude to minimize disturbances during the release. Jones uses the robot arm to hold Wake Shield in position for a two-and-a-half hour cleansing by atomic oxygen molecules before moving the arm to the deploy position.
CASI
Space Transportation System Flights; Spacecrews; Space Exploration; Space Flight; Space Missions

19970012101 NASA Johnson Space Center, Houston, TX USA
STS-81 Flight Day 8
Jan. 19, 1997; In English; 15 min. 51 sec. playing time, in color, with sound
Report No(s): NASA-TM-112423; BRF-1403H; NONP-NASA-VT-97-1997021178; No Copyright; Avail: CASI: C01, DVD

On this eighth day of the STS-81 mission, the flight crew, Cmdr. Michael A. Baker, Pilot Brent W. Jett, Mission Specialists, John M. Grunsfeld, Marsha S. Ivins, Peter J.K. Wisoff, and John Blaha, bid farewell to Jerry Linenger and cosmonauts of Mir. Prior to hatch closure, the astronauts and cosmonauts conduct a formal farewell ceremony in the Mir Core Module. They then field questions from Russian and U.S. reporters in a joint news conference. Commander Mike Baker, Pilot Brent Jett and Mission Specialists Jeff Wisoff, John Grunsfeld, Marsha Ivins and John Blaha say goodbye to Mir 22 Commander Valery Korzun, Flight Engineer Alexander Kaleri and the newest Mir crewmember, astronaut Jerry Linenger. The hatches on the two spacecraft are closed.
CASI
Space Transportation System Flights; Spacecrews; Space Flight; Space Missions

19970012103 NASA Johnson Space Center, Houston, TX USA
STS-80 Flight Day 11
Nov. 30, 1996; In English; 13 min. 53 sec. playing time, in color, with sound
Report No(s): NASA-TM-112411; BRF-1401K; NONP-NASA-VT-97-1997021160; No Copyright; Avail: CASI: C01, DVD

On this eleventh day of the STS-80 mission, the flight crew, Cmdr. Kenneth D. Cockrell, Pilot Kent V. Rominger, Mission Specialists, Tamara E. Jernigan, Thomas D. Jones, and F. Story Musgrave, attempt the first of three planned spacewalks. Jernigan and Jones can be seen in the airlock attempting to open a stuck hatch. After several attempts at trying to open the hatch, the mission management team cancels the spacewalk.
CASI
Space Transportation System Flights; Air Locks; Hatches; Space Flight; Space Missions

19970012104 NASA Johnson Space Center, Houston, TX USA
STS-80 Flight Day 10
Nov. 29, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-112410; BRF-1401J; NONP-NASA-VT-97-1997021161; No Copyright; Avail: CASI: C01, DVD

On this tenth day of the STS-80 mission, the flight crew, Cmdr. Kenneth D. Cockrell, Pilot Kent V. Rominger, Mission Specialists, Tamara E. Jernigan, Thomas D. Jones, and F. Story Musgrave, conduct a thorough check of the tools that Jernigan and Jones will be using for their spacewalk. The astronauts also prepare the middeck for the first spacewalk. The first extravehicular activity will test a telescoping crane which will be used during the assembly of the International Space Station to move large components from module to module. The two astronauts will use the crane to move a simulated space station battery back and forth around the cargo bay.
CASI
Space Transportation System Flights; Spacecrews; Extravehicular Activity; International Space Station

19970012105 NASA Johnson Space Center, Houston, TX USA
STS-80 Flight Day 8
Nov. 27, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-112408; BRF-1401H; NONP-NASA-VT-97-1997021163; No Copyright; Avail: CASI: C01, DVD

On this eighth day of the STS-80 mission, the flight crew, Cmdr. Kenneth D. Cockrell, Pilot Kent V. Rominger, Mission Specialists, Tamara E. Jernigan, Thomas D. Jones, and F. Story Musgrave, focus on additional science investigations with the Wake Shield Facility while it is attached to the shuttle's robot arm. Jones unberths the Wake Shield, and returns it to its resting place in the payload bay after using its instruments to characterize the environment around the shuttle.
CASI
Space Transportation System Flights; Robot Arms; Payloads

19970012106 NASA Johnson Space Center, Houston, TX USA
STS-80 Flight Day 7
Nov. 26, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-112407; BRF-1401G; NONP-NASA-VT-97-1997021164; No Copyright; Avail: CASI: C01, DVD

On this seventh day of the STS-80 mission, the flight crew, Cmdr. Kenneth D. Cockrell, Pilot Kent V. Rominger, Mission Specialists, Tamara E. Jernigan, Thomas D. Jones, and F. Story Musgrave, retrieve the Wake Shield Facility, completing a successful mission by the free-flying satellite, which was able to grow all seven of its planned thin semi-conductor films over a period of three days. Cockrell flawlessly takes the shuttle to within 35 feet of the satellite and Jones latches the mechanical arm onto the Wake Shield, as the shuttle flies 220 miles above South America.
CASI
Space Transportation System Flights; Spacecrews; Space Flight; Space Missions

19970012107 NASA Johnson Space Center, Houston, TX USA
STS-80 Flight Day 6
Nov. 25, 1996; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-112406; BRF-1401F; NONP-NASA-VT-97-1997021165; No Copyright; Avail: CASI: C01, DVD

On this sixth day of the STS-80 mission, the flight crew, Cmdr. Kenneth D. Cockrell, Pilot Kent V. Rominger, Mission Specialists, Tamara E. Jernigan, Thomas D. Jones, and F. Story Musgrave, are awakened to news from Mission Control that the ORFEUS-SPAS astronomy satellite may be closing in on the Wake Shield Facility satellite slightly faster than originally predicted. The Orbiting and Retrievable Far and Extreme Ultraviolet Spectrometer, or ORFEUS-SPAS satellite, has conducted 77 different astronomical observations since being deployed on launch day. Jernigan reports that the VIEW-CAPL experiment,

designed by students at the University of Maryland, is working well. The experiment tests capillary pumped loop technology that one day may be used for more reliable spacecraft cooling systems. The crew also sends down television pictures of the flight deck and address half a dozen questions posed via the NASA Shuttle Web on the Internet.
CASI
Space Transportation System Flights; Astronomy; Launching; Ultraviolet Spectrometers

19970012108 NASA Johnson Space Center, Houston, TX USA
STS-80 Flight Day 5
Nov. 24, 1996; In English; 27 min. playing time, in color, with sound
Report No(s): NASA-TM-112405; BRF-1401E; NONP-NASA-VT-97-1997021166; No Copyright; Avail: CASI: C01, DVD
On this fifth day of the STS-80 mission, the flight crew, Cmdr. Kenneth D. Cockrell, Pilot Kent V. Rominger, Mission Specialists, Tamara E. Jernigan, Thomas D. Jones, and F. Story Musgrave, focus on maintaining formation and working with in-cabin microgravity experiments. Jernigan and Rominger work with the Visualization in an Experimental Water Capillary Pumped Loop (VIEW-CAPL) experiment. Later in the day Musgrave is interviewed by CBS News.
CASI
Space Transportation System Flights; Supplying; Spacecrews; Microgravity; Gravitational Effects

19970012110 NASA Johnson Space Center, Houston, TX USA
STS-81 Flight Day 1
Jan. 12, 1997; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-112416; BRF-1403A; NONP-NASA-VT-97-1997021176; No Copyright; Avail: CASI: C01, DVD
This first day of the STS-81 mission begins with the flight crew, Cmdr. Michael A. Baker, Pilot Brent W. Jett, Mission Specialists, John M. Grunsfeld, Marsha S. Ivins, Peter J.K. Wisoff, and Jerry M. Linenger, performing pre-launch activities such as eating the traditional breakfast, being suited-up, and riding out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew is readied in the ‘white room’ for their mission. After the closing of the hatch and arm retraction, launch activities are shown including the countdown, engine ignition, and launch. The film ends with the separation of the Solid Rocket Boosters (SRB) from the shuttle.
CASI
Space Transportation System Flights; Countdown; Launching; Ignition; Space Missions

19970012111 NASA Johnson Space Center, Houston, TX USA
STS-81 Flight Day 2
Jan. 13, 1997; In English; 15 min. 15 sec. playing time, in color, with sound
Report No(s): NASA-TM-112417; BRF-1403B; NONP-NASA-VT-97-1997021177; No Copyright; Avail: CASI: C01, DVD
On this second day of the STS-81 mission, the flight crew, Cmdr. Michael A. Baker, Pilot Brent W. Jett, Mission Specialists, John M. Grunsfeld, Marsha S. Ivins, Peter J.K. Wisoff, and Jerry M. Linenger, continue to close in on The Mir Space Station. Payload work involves activating a radiation monitor in addition to the Biorack multipurpose facility which is designed to investigate the effects of microgravity and radiation on plant, tissue, cell and fungus growth. Mission Specialists Jeff Wisoff and John Grunsfeld spend much of their work day setting up and performing initial work in the experiment’s glove box.
CASI
Space Transportation System Flights; Spacelab Payloads; Mir Space Station; Spacecrews; Exobiology

19970012159 NASA Johnson Space Center, Houston, TX USA
STS-81 Flight Day 9
Jan. 20, 1997; In English; 15 min. 35 sec. playing time, in color, with sound
Report No(s): NASA-TM-112424; BRF-1403I; NONP-NASA-VT-97-1997021174; No Copyright; Avail: CASI: C01, DVD
On this ninth day of the STS-81 mission, the flight crew, Cmdr. Michael A. Baker, Pilot Brent W. Jett, Mission Specialists, John M. Grunsfeld, Marsha S. Ivins, Peter J.K. Wisoff, and John Blaha, are flying on their own after undocking the Mir Space

Station. Following the separation Pilot Brent Jett initiates a two-revolution flyaround of the Russian complex at a distance of about 560 feet. Jett fires maneuvering jets to separate Atlantis from Mir for the final time until May, when the shuttle will return on STS-84 to deliver astronaut Mike Foale to the outpost as Jerry M. Linenger's replacement.
CASI
Space Transportation System Flights; Mir Space Station; Spacecrews; Space Flight; Space Missions

19970012160 NASA Johnson Space Center, Houston, TX USA
STS-80 Flight Day 1
Nov. 20, 1996; In English; 15 min. 40 sec. playing time, in color, with sound
Report No(s): NASA-TM-112401; BRF-1401A; NONP-NASA-VT-97-1997021173; No Copyright; Avail: CASI: C01, DVD

This first day of the STS-80 mission, begins with the flight crew, Cmdr. Kenneth D. Cockrell, Pilot Kent V. Rominger, Mission Specialists, Tamara E. Jernigan, Thomas D. Jones, and F. Story Musgrave, performing pre-launch activities such as eating the traditional breakfast, being suited-up, and riding out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew is readied in the 'white room' for their mission. After the closing of the hatch and arm retraction, launch activities are shown including the countdown, engine ignition, and launch. The film ends with the separation of the Solid Rocket Boosters (SRB) from the shuttle.
CASI
Space Transportation System Flights; Launching; Space Flight

19970017650 NASA Johnson Space Center, Houston, TX USA
STS-80 Mission Highlights Resource Tape
Feb. 27, 1997; In English; 50 min. 52 sec. playing time, in color, with sound
Report No(s): NASA-TM-112813; JSC-1615; NONP-NASA-VT-1997026055; No Copyright; Avail: CASI: C01, DVD

The flight crew of STS-80, Cmdr. Kenneth D. Cockrell, Pilot Kent V. Rominger, Mission Specialists, Tamara E. Jernigan, Thomas D. Jones, and F. Story Musgrave are seen performing pre-launch activities such as eating the traditional breakfast, being suited-up, and riding out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew is readied in the 'white room' for their mission. After the closing of the hatch and arm retraction, launch activities are shown including the countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters (SRB) from the shuttle. The crew completes the first major objective of the mission with the deployment of the Orbiting Retrievable Far and Extreme Ultraviolet Spectrometer (ORFEUS) on the reusable Shuttle Pallet Satellite. The crew than begins final preparations for the release of Wake Shield. Jones powers up the shuttle's Canadian-built robot arm and grapples the satellite, while Jernigan powers up the Orbiter Space Vision System, which will be used to track precisely the Wake Shield's location. Cockrell places Columbia in a gravity gradient attitude to minimize disturbances during the release. Jones uses the robot arm to hold Wake Shield in position for a two-and-a-half hour cleansing by atomic oxygen molecules before moving the arm to the deploy position. The failure of the hatch to properly open causes the cancellation of all EVA's planned for this mission by Jernigan and Jones. The mission ends with the shuttle landing at the Kennedy Space Center.
CASI
Space Transportation System Flights; Space Shuttle Orbiters; Space Shuttle Payloads; Spacecrews; Flight Crews; Far Ultraviolet Radiation; Extravehicular Activity; Deployment

19970017656 NASA Johnson Space Center, Houston, TX USA
STS-82 Day 05 Highlights
Feb. 15, 1997; In English; 19 min. playing time, in color, with sound
Report No(s): NASA-TM-112803; BRF-1405E; NONP-NASA-VT-1997026063; No Copyright; Avail: CASI: C01, DVD

The fifth day of the STS-82 mission begins with the crew, Commander Kenneth D. Bowersox, Pilot Scott J. Horowitz, Payload Commander Mark C. Lee, and Mission Specialists Gregory J. Harbaugh, Steven L. Smith, Joseph R. Tanner, and Steven A. Hawley completing the checkout of spacesuits well ahead of schedule, allowing them to start the second spacewalk of the flight. Harbaugh and Tanner went right to work, replacing a degraded Fine Guidance Sensor and a failed Engineering and Science Tape Recorder with new spares. The astronauts also installed a new unit known as the Optical Control Electronics Enhancement Kit, which will further increase the capability of the new Fine Guidance Sensor. During the spacewalk, the

astronauts and flight controllers took note of cracking and wear incurred by thermal insulation which protects several areas of the telescope.
CASI
Space Transportation System; Space Transportation System Flights; Space Shuttle Missions; Flight Control; Guidance Sensors; Spacecrews; Thermal Insulation

19970017657 NASA Johnson Space Center, Houston, TX USA
STS-82 Day 07 Highlights
Feb. 17, 1997; In English; 16 min. playing time, in color, with sound
Report No(s): NASA-TM-112805; BRF-1405G; NONP-NASA-VT-1997026061; No Copyright; Avail: CASI: C01, DVD

The seventh day of the STS-82 mission begins with the crew, Commander Kenneth D. Bowersox, Pilot Scott J. Horowitz, Payload Commander Mark C. Lee, and Mission Specialists Gregory J. Harbaugh, Steven L. Smith, Joseph R. Tanner, and Steven A. Hawley performing their third spacewalk of the mission by emerging from Discovery's airlock. Their first task is the replacement of a Solar Array Drive Electronics package which is used to control the positioning of Hubble's solar arrays. Harbaugh and Tanner next venture to the top of the telescope where they replaced covers over Hubble's magnetometers, which are used to sense the telescope's position in relation to the Earth through data acquired from the Earth's magnetic field. The spacewalking astronauts then place thermal blankets of multi-layer material over two areas of degraded insulation around the light shield portion of the telescope just below the top of the astronomical observatory.
CASI
Space Transportation System; Astronomical Observatories; Geomagnetism; Magnetometers; Solar Arrays; Thermal Insulation; Spacecrews; Hubble Space Telescope

19970017658 NASA Johnson Space Center, Houston, TX USA
STS-82 Day 08 Highlights
Feb. 18, 1997; In English; 17 min. playing time, in color, with sound
Report No(s): NASA-TM-112806; BRF-1405H; NONP-NASA-VT-1997026060; No Copyright; Avail: CASI: C01, DVD

The eighth day of the STS-82 mission begins with the crew, Commander Kenneth D. Bowersox, Pilot Scott J. Horowitz, Payload Commander Mark C. Lee, and Mission Specialists Gregory J. Harbaugh, Steven L. Smith, Joseph R. Tanner, and Steven A. Hawley performing the final spacewalk of the mission. Lee and Smith attach several thermal insulation blankets to three equipment compartments at the top of the Support Systems Module section of Hubble which contain key data processing, electronics and scientific instrument telemetry packages. Following the completion of that work, Lee and Smith briefly return to the airlock while flight controllers evaluated a possible glitch with one of four Reaction Wheel Assembly units in Hubble used to maneuver the telescope for its scientific observations. A spare Reaction Wheel Assembly was available aboard Discovery for a swap out during an additional spacewalk had it been necessary, but a few hours later, after further analysis, payload controllers reported that the Reaction Wheel Assembly was in excellent shape and operating at the proper speed.
CASI
Space Transportation System; Air Locks; Spacecrews; Thermal Insulation; Hubble Space Telescope; Space Shuttle Missions; Space Shuttle Payloads; Space Transportation System Flights

19970017659 NASA Johnson Space Center, Houston, TX USA
STS-82 Day 09 Highlights
Feb. 19, 1997; In English; 18 min. 13 sec. playing time, in color, with sound
Report No(s): NASA-TM-112807; BRF-1405I; NONP-NASA-VT-1997026059; No Copyright; Avail: CASI: C01, DVD

The ninth day of the STS-82 mission begins with the crew, Commander Kenneth D. Bowersox, Pilot Scott J. Horowitz, Payload Commander Mark C. Lee, and Mission Specialists Gregory J. Harbaugh, Steven L. Smith, Joseph R. Tanner, and Steven A. Hawley placing the Hubble Space Telescope back into its own orbit to continue its investigation of the far reaches of the universe. At the time of deployment, the Shuttle was at an altitude of 334 nautical miles over the southwest coast of Africa. Hubble is now operating at the highest altitude it has ever flown, a 335 by 321 nautical mile orbit. A few hours after Hubble's deployment, the crew receives a congratulatory phone call from NASA Administrator Daniel Goldin. The four

spacewalking crewmembers also answered questions from several news networks regarding their work over the past week to upgrade the telescope.
CASI
Space Transportation System; Hubble Space Telescope; Deployment; Spacecrews; Space Exploration; Space Shuttle Missions; Space Transportation System Flights

19970017664 NASA Johnson Space Center, Houston, TX USA
STS-82 Day 06 Highlights
Feb. 16, 1997; In English; 18 min. playing time, in color, with sound
Report No(s): NASA-TM-112804; BRF-1405F; NONP-NASA-VT-1997026062; No Copyright; Avail: CASI: C01, DVD

The sixth day of the STS-82 mission begins with the crew, Commander Kenneth D. Bowersox, Pilot Scott J. Horowitz, Payload Commander Mark C. Lee, and Mission Specialists Gregory J. Harbaugh, Steven L. Smith, Joseph R. Tanner, and Steven A. Hawley conducting the third spacewalk of the mission. Lee and Smith are seen removing and replacing a Data Interface Unit which provides command and data interfaces between Hubble's data management system and other subsystems. They also replace an old reel-to-reel style Engineering and Science Tape Recorder with a new digital Solid State Recorder (SSR) that will allow simultaneous recording and playback of data. The final task for Lee and Smith is the change out of one of four Reaction Wheel Assembly units that use spin momentum to move the telescope toward a target and maintain it in a stable position.
CASI
Space Transportation System; Space Shuttle Missions; Space Transportation System Flights; Spacecrews; Reaction Wheels

19970017665 NASA Johnson Space Center, Houston, TX USA
STS-82 Day 10 Highlights
Feb. 20, 1997; In English; 20 min. 20 sec. playing time, in color, with sound
Report No(s): NASA-TM-112808; BRF-1405J; NONP-NASA-VT-1997026058; No Copyright; Avail: CASI: C01, DVD

The tenth day of the STS-82 mission begins with the crew, Commander Kenneth D. Bowersox, Pilot Scott J. Horowitz, Payload Commander Mark C. Lee, and Mission Specialists Gregory J. Harbaugh, Steven L. Smith, Joseph R. Tanner, and Steven A. Hawley checking out Discovery's flight control systems in preparations for returning to Earth. The seven astronauts stow equipment and prepare for the planned landing at the Kennedy Space Center. Before wrapping up what is expected to be their final day in orbit, the astronauts held a press conference to discuss the flight, which set a record five spacewalks conducted to service the Hubble Space Telescope for the second time.
CASI
Space Transportation System; Hubble Space Telescope; Spacecrews; Space Flight; Space Shuttle Missions; Space Transportation System Flights

19970017672 NASA Johnson Space Center, Houston, TX USA
STS-82 Day 01 Highlights
Feb. 11, 1997; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-112799; BRF-1405A; NONP-NASA-VT-1997026068; No Copyright; Avail: CASI: C01, DVD

The first day of the STS-82 mission begins with the crew, Commander Kenneth D. Bowersox, Pilot Scott J. Horowitz, Payload Commander Mark C. Lee, and Mission Specialists Gregory J. Harbaugh, Steven L. Smith, Joseph R. Tanner, and Steven A. Hawley performing pre-launch activities such as eating the traditional breakfast, being suited up, and riding out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew is readied in the 'white room' for their mission. After the closing of the hatch, and arm retraction, launch activities are shown including the countdown, engine ignition, launch, shuttle roll maneuver, and then the separation of the Solid Rocket Boosters (SRB) from the shuttle. Once in orbit the cargo bay doors are seen opening.
CASI
Space Transportation System Flights; Space Shuttle Missions; Space Shuttle Payloads; Countdown; Spacecrews; Launching; Ignition

19970017673 NASA Johnson Space Center, Houston, TX USA

STS-82 Day 02 Highlights

Feb. 12, 1997; In English; 13 min. playing time, in color, with sound

Report No(s): NASA-TM-112800; BRF-1405B; NONP-NASA-VT-1997026066; No Copyright; Avail: CASI: C01, DVD

On the second day of the STS-82 mission, the crew Commander Kenneth D. Bowersox, Pilot Scott J. Horowitz, Payload Commander Mark C. Lee, and Mission Specialists Gregory J. Harbaugh, Steven L. Smith, Joseph R. Tanner, and Steven A. Hawley survey the payload bay with the Shuttle's 50-foot remote manipulator system (RMS). Hawley puts the arm through its paces to verify it's ability to capture the Hubble Space Telescope (HST). To prepare for the up coming spacewalks, the astronauts assemble on the middeck to checkout tools they will use while servicing the telescope.

CASI

Space Transportation System Flights; Space Shuttle Payloads; Spacecrews; Remote Manipulator System; Hubble Space Telescope

19970017674 NASA Johnson Space Center, Houston, TX USA

STS-82 Day 03 Highlights

Feb. 13, 1997; In English; 16 min. 36 sec. playing time, in color, with sound

Report No(s): NASA-TM-112801; BRF-1405C; NONP-NASA-VT-1997026065; No Copyright; Avail: CASI: C01, DVD

The third day of the STS-82 mission begins with the crew, Commander Kenneth D. Bowersox, Pilot Scott J. Horowitz, Payload Commander Mark C. Lee, and Mission Specialists Gregory J. Harbaugh, Steven L. Smith, Joseph R. Tanner, and Steven A. Hawley successfully retrieving the Hubble Space Telescope. Hawley than lowers the 12-ton observatory onto the Flight Support System berthing platform in Discovery's cargo bay, where it is latched in place for servicing. The astronauts are then seen in the mid-deck preparing for the first of four spacewalks designed to service and upgrade the scientific capabilities of the Hubble Space Telescope.

CASI

Space Shuttle Missions; Space Transportation System Flights; Hubble Space Telescope; Spacecrews; Space Flight

19970017683 NASA Johnson Space Center, Houston, TX USA

STS-82 Post Flight Presentation

Mar. 11, 1997; In English; 33 min. 56 sec. playing time, in color, with sound

Report No(s): NASA-TM-112809; JSC-1630; NONP-NASA-VT-1997026056; No Copyright; Avail: CASI: C01, DVD

The STS-82 crew, Commander Kenneth D. Bowersox, Pilot Scott J. Horowitz, Payload Commander Mark C. Lee, and Mission Specialists Gregory J. Harbaugh, Steven L. Smith, Joseph R. Tanner, and Steven A. Hawley present a video and still picture over-view of their mission. Included in the presentation are the following: the pre-launch activities such as eating the traditional breakfast, being suited up, and riding out to the launch pad, various panoramic views of the shuttle on the pad, the countdown, engine ignition, launch, shuttle roll maneuver, separation of the Solid Rocket Boosters (SRB) from the shuttle, survey of the payload bay with the Shuttle's 50-foot remote manipulator system (RMS), the successful retrieve of the Hubble Space Telescope (HST), EVA's to repair HST, release of HST, and the shuttle's landing.

CASI

Space Shuttle Payloads; Space Transportation System Flights; Space Shuttle Missions; Spacecrews; Flight Crews; Hubble Space Telescope; Extravehicular Activity

19970017684 NASA Johnson Space Center, Houston, TX USA

STS-82 Day 04 Highlights

Feb. 14, 1997; In English; 18 min. 35 sec. playing time, in color, with sound

Report No(s): NASA-TM-112802; BRF-1405D; NONP-NASA-VT-1997026064; No Copyright; Avail: CASI: C01, DVD

The fourth day of the STS-82 mission begins with the crew, Commander Kenneth D. Bowersox, Pilot Scott J. Horowitz, Payload Commander Mark C. Lee, and Mission Specialists Gregory J. Harbaugh, Steven L. Smith, Joseph R. Tanner, and Steven A. Hawley in preparations for conducting the second servicing mission of the Hubble Space Telescope. The first spacewalk was slightly delayed to enable ground controllers to assess the unexpected movement of one of Hubble's solar arrays, which slewed from a horizontal to a vertical position as Discovery's airlock was depressurized. Astronauts Mark Lee and Steve Smith are seen working in the cargo bay of the Shuttle Discovery. Their spacewalk to upgrade the Hubble Space

Telescope lasts six hours and 42 minutes. At the conclusion of their EVA, HST has graded science instruments for an expanded view of the universe.
CASI
Space Transportation System Flights; Space Transportation System; Space Missions; Spacecrews; Astronauts

19970021175 NASA Johnson Space Center, Houston, TX USA
STS-83 Postflight Presentation
Jun. 09, 1997; In English; 21 min. 51 sec. playing time, in color, with sound
Report No(s): NASA-TM-112516; JSC-1639; NONP-NASA-VT-1997033261; No Copyright; Avail: CASI: C01, DVD

The flight crew of the STS-83 mission, Cmdr James D. Halsell, Pilot Susan S. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Donald Thomas and Michael Gernhardt, and Payload Specialists Roger Crouch and Greg Linteris, offer a video and still photo presentation of their journey. Included in the presentation are an introduction of the crew and a short briefing by Cmdr. Halsell, the launch and ascent narrated by Still, Spacelab Module narration by Voss, mission control narrated by Cmdr. Halsell, experiment narration by Thomas and Crouch. Also included are video views of the Baja Penninsula, Sinai Penninsla, pivot-point irrigation circles, Comet Hale-Bopp, and the cross-wind landing. The crew poses outside the shuttle for photos. Crew members discuss still photos taken during the mission, including shots of sunsets, the Grand Bahamas Island, Nile River, Baja Penninsula, Indis River of India, and Guadalupe Island.
CASI
Space Transportation System Flights; Spacelab; Spacecrews; Photographs; Launching; Comets

19970022115 NASA Johnson Space Center, Houston, TX USA
STS-82 Mission Highlight Presentation
Jun. 02, 1997; In English; 59 min. 31 sec. playing time, in color, with sound
Report No(s): NASA-TM-112794; JSC-1632; NONP-NASA-VT-1997032904; No Copyright; Avail: CASI: C01, DVD

The STS-82 is the second in a series of planned service missions to the Hubble Space Telescope (HST). The flight crew of STS-82, Cmdr. Kenneth D. Bowersox, Pilot Scott J. Horowitz, Mission specialists, Mark C. Lee, Steven A. Hawley, Gregory J. Harbaugh, Steven L. Smith, and Joseph R. Tanner can be seen performing pre-launch activities preparing for the night launch. The crew meets the press for pre-launch photos before being transported to the launch pad. Several views can be seen of the final inspection team on the O level and the crew being readied in the ‘white room’. Launch activities such as the oxygen vent hood retraction, liftoff, SRB separation, and personnel activities in the Houston Integrated Mission Control room are viewed. Subsequent footage is provided of the crew’s activities during the HST rendezvous and docking, Extravehicular Activities (EVA’s) preparation and EVA numbers 1, 3 and 5. During the first EVA the earth can be seen clearly in a reflection off of HST’s offshroud during its 60th orbit crossing the equator. The HST deployment and views of the Hale-Bopp comet are clearly seen before Discovery’s reentry and landing. After reentry a beautiful view of Discovery moving at 10,400 mph can be seen looking east from Mission Control. The ususal twin sonic boom precedes Discovery’s touchdown on runway 15 at Kennedy Space Center. This second HST service mission orbited Earth 150 times and traveled 1.4 million miles.
CASI
Extravehicular Activity; Hubble Space Telescope; Launching; Space Transportation System Flights; Space Maintenance

19970027209 NASA Johnson Space Center, Houston, TX USA
STS-81 Mission Highlights Resources Tape
Sep. 25, 1997; In English; 53 min. 41 sec. playing time, in color, with sound
Report No(s): NASA-TM-112921; JSC-1625; NONP-NASA-VT-1997047950; No Copyright; Avail: CASI: C01, DVD

The flight crew of the STS-81 Space Shuttle Orbiter Atlantis Commander Michael A. Baker, Pilot Brent W. Jett Jr., and Mission Specialists, John M. Grunsfeld, Marsha S. Ivins, Peter J.K. Wisoff, and John M. Linenger present an overview of their mission. Video footage includes the following: prelaunch and launch activities, the crew eating breakfast, shuttle launch, on orbit activities, rendezvous with Mir, Shuttle/Mir joint activities, undocking, and the shuttle landing.
CASI
Space Transportation System Flights; Space Shuttle Orbiters; Mir Space Station; Flight Crews; Spacecraft Docking

19970027210 NASA Johnson Space Center, Houston, TX USA

STS-83 Day 02

Jul. 02, 1997; In English; 15 min. playing time, in color, with sound

Report No(s): NASA-TM-112916; BRF-1407B; NONP-NASA-VT-1997047945; No Copyright; Avail: CASI: C01, DVD

On this second day of the STS-83 mission, the flight crew, Cmdr. James D. Halsell, Jr. Pilot Susan L. Still, Payload Cmdr, Janice E. Voss, Mission Specialists Michael L. Gernhardt and Donald A. Thomas, and Payload Specialists Gregory T. Linteris and Roger K. Crouch can be seen setting up experiments for studying the properties of combustion and the behavior of metals, materials, and fluids in the absence of gravity. The astronauts are split into red and blue teams, each working a 12-hour shift, to allow around-the-clock operations in the pressurized Spacelab science module in Columbia's cargo bay. Thomas is seen activating the Large Isothermal Furnace (LIF) experiment and the Expedite the Processing of Experiments to the International Space Station (EXPRESS) Rack while Linteris continues the activation of Protein Crystal Growth experiments.

CASI

Space Transportation System Flights; Spacelab; Space Processing; Spacelab Payloads; Spaceborne Experiments; Low Gravity Manufacturing

19970027211 NASA Johnson Space Center, Houston, TX USA

Pressure Wave Propagation in a Screech Cycle

Sep. 25, 1997; In English; 6 min. 35 sec. playing time, in color, with sound

Report No(s): NASA-TM-112922; CR-198467; NONP-NASA-VT-1997047951; No Copyright; Avail: CASI: C01, DVD

The screech noise generation process from supersonic under expanded jets, issuing from a sonic nozzle pressure ratio of 2.4 and 3.3 (expanded Mach number, M(sub j) = 1.10 and 1.42), is investigated experimentally. Spark Schlieren visualization at different phases of the screech cycle are clearly shown. The rms pressure fluctuation at the screech frequency is measured in the near field region by a traversing microphone.

CASI

Supersonic Jet Flow; Sonic Nozzles; Nozzle Flow; Noise Generators; Wave Propagation; Elastic Waves; Gas Jets; Sound Waves; Sound Pressure; Oscillating Flow; Jet Aircraft Noise; Noise Reduction

19970027234 NASA Johnson Space Center, Houston, TX USA

STS-83 Mission Highlights Resources Tape

Jun. 08, 1997; In English; 44 min. 36 sec. playing time, in color, with sound

Report No(s): NASA-TM-112919; JSC-1641; NONP-NASA-VT-1997047948; No Copyright; Avail: CASI: C01, DVD

The STS-83 mission flight crew, Cmdr. James D. Halsell Jr., Pilot Susan L. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Michael L. Gernhardt and Donald A. Thomas, and Payload Specialist Gregory T. Linteris and Roger K. Crouch present an overview of their mission. The primary payload is the Microgravity Science Laboratory (MSL), which is a collection of microgravity experiments housed inside a European Spacelab Long Module (LM). MSL features 19 materials science investigations in 4 major facilities. These facilities are the Large Isothermal Furnace, the EXpedite the PRocessing of Experiments to the Space Station (EXPRESS) Rack, the Electromagnetic Containerless Processing Facility (TEMPUS), and the Coarsening in Solid-Liquid Mixtures (CSLM) Facility, the Droplet Combustion Experiment (DCE); and the Combustion Module-1 Facility. Additional technology experiments will be performed in the Middeck Glovebox (MGBX) developed by the Marshall Space Flight Center (MSFC) and the High-Packed Digital Television (HI-PAC DTV) system will be used to provide multi-channel real-time analog science video. Pre-flight, launch, and orbital footage is followed a discussion of the spaceborne experiments aboard the MSL. The end footage shows the shuttle's prelanding checkout, reentry, and landing.

CASI

Space Transportation System Flights; Spaceborne Experiments; Spacelab; Space Processing; Low Gravity Manufacturing; Spacelab Payloads

19970027235 NASA Johnson Space Center, Houston, TX USA

STS-83 Day 04

Jul. 04, 1997; In English; 15 min. playing time, in color, with sound

Report No(s): NASA-TM-112918; BRF-1407D; NONP-NASA-VT-1997047947; No Copyright; Avail: CASI: C01, DVD

On this forth day of the STS-83 mission, the flight crew, Cmdr. James D. Halsell, Jr. Pilot Susan L. Still, Payload Cmdr, Janice E. Voss, Mission Specialists Michael L. Gernhardt and Donald A. Thomas, and Payload Specialist Gregory T. Linteris,

and Roger K. Crouch complete science work aboard Spacelab module and begin deactivating experiments in preparations for an early return to Earth.
CASI
Space Transportation System Flights; Spacelab; Spaceborne Experiments; Space Processing; Low Gravity Manufacturing; Spacelab Payloads

19970027236 NASA Johnson Space Center, Houston, TX USA
STS-83 Day 03
Jul. 03, 1997; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-112917; BRF-1407C; NONP-NASA-VT-1997047946; No Copyright; Avail: CASI: C01, DVD

On this third day of the STS-83 mission, the flight crew, Cmdr. James D. Halsell Jr., Pilot Susan L. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Michael L. Gernhardt and Donald A. Thomas, and Payload Specialist Gregory T. Linteris and Roger K. Crouch continue to conduct experiments. The crew of the Microgravity Science Laboratory mission has successfully activated all Spacelab facilities with help from the science teams on the ground.
CASI
Space Transportation System Flights; Spacelab; Space Processing; Spacelab Payloads; Spaceborne Experiments

19970027237 NASA Johnson Space Center, Houston, TX USA
STS-83 Day 01
Jul. 01, 1997; In English; 21 min. playing time, in color, with sound
Report No(s): NASA-TM-112915; BRF-1407A; NONP-NASA-VT-1997047944; No Copyright; Avail: CASI: C01, DVD

On this first day of the STS-83 mission, the flight crew, Cmdr. James D. Halsell Jr., Pilot Susan L. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Michael L. Gernhardt and Donald A. Thomas, and Payload Specialists Gregory T. Linteris and Roger K. Crouch can be seen preforming pre-launch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew can be seen being readied in the ‘white room’ for their mission. After the closing of the hatch and arm retraction, launch activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters.
CASI
Space Transportation System Flights; Spacecraft Launching; Spacelab; Spaceborne Experiments; Astronauts; Space Processing; Preflight Operations

19970027679 NASA Johnson Space Center, Houston, TX USA
STS-84 Day 09 Highlights
May 23, 1995; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-112939; BRF-1408I; NONP-NASA-VT-1997053793; No Copyright; Avail: CASI: C01, DVD

On this the ninth day of the STS-84 mission, the flight crew, Cmdr. Charles J. Precourt, Pilot Eileen M. Collions, Payload Cmdr, Jean-Francois Clervoy (ESA), Mission Specialists Edward T. Lu, Carlos I. Noriega, Elena V. Kondakova, Jerry M. Linenger (download), and C. Michael Foale (upload) spend the morning testing Atlantis’ flight control surfaces and thruster jets to ensure they are ready to support the Shuttle’s high speed return to Earth. The astronauts’ final day on orbit is devoted to stowing equipment and finishing experiment work in the Spacehab module in the cargo bay. In addition to 2,600 pounds of items being brought back from the Mir Space Station, Atlantis is ferrying home astronaut Jerry Linenger, who is returning to Earth after 122 days on the Mir. If Atlantis lands as planned Saturday, Linenger will have logged 132 days in space on this flight, the second longest single spaceflight by a U.S. astronaut behind the record 188-day stay in orbit by Shannon Lucid last year.
CASI
Space Transportation System Flights; Spacecrews; Space Flight; Mir Space Station; Control Surfaces; Bays (Structural Units); Astronauts

19970027680 NASA Johnson Space Center, Houston, TX USA
STS-84 Post Flight Presentation
May 24, 1995; In English; 55 min. 11 sec. playing time, in color, with sound
Report No(s): NASA-TM-112940; JSC-1646; NONP-NASA-VT-1997053794; No Copyright; Avail: CASI: C01, DVD

The STS-84 mission flight crew, Cmdr. Charles J. Precourt, Pilot Eileen M. Collions, Payload Cmdr, Jean-Francois Clervoy (ESA), Mission Specialists Edward T. Lu; Carlos I. Noriega; Elena V. Kondakova; Jerry M. Linenger, present a post flight analysis of their mission through the use of color slides and video footage. Prelaunch and launch activities are shown and briefly discussed. The astronauts take turns talking about different aspects of their specific roles during the mission.
CASI
Space Transportation System Flights; Spacecrews; Postflight Analysis; Payloads; Astronauts

19970027685 NASA Johnson Space Center, Houston, TX USA
STS-84 Day 05 Highlights
May 19, 1995; In English; 16 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-112935; BRF-1408E; NONP-NASA-VT-1997053789; No Copyright; Avail: CASI: C01, DVD
On this fifth day of the STS-84 mission, the flight crew, Cmdr. Charles J. Precourt, Pilot Eileen M. Collions, Payload Cmdr, Jean-Francois Clervoy (ESA), Mission Specialists Edward T. Lu, Carlos I. Noriega, Elena V. Kondakova, Jerry M. Linenger (download), and C. Michael Foale (upload) continue their work through the overnight hours, transferring water, hardware and logistical supplies to and from each other's spacecraft. It is the third day of joint operations between the Shuttle and the Russian Space Station crewmembers. As planned, the newest member of the Mir 23 crew, Mike Foale, and astronaut Jerry Linenger continue their handover activities to prepare Foale for his 4 month stay on Mir. Foale will serve aboard the Russian outpost until he is replaced by astronaut Wendy Lawrence during Atlantis' next visit to Mir in September.
CASI
Space Transportation System Flights; Spacecrews; Space Stations; Payloads; Astronauts

19970027686 NASA Johnson Space Center, Houston, TX USA
STS-84 Day 06 Highlights
May 20, 1995; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-112936; BRF-1408F; NONP-NASA-VT-1997053790; No Copyright; Avail: CASI: C01, DVD
On this sixth day of the STS-84 mission, the flight crew, Cmdr. Charles J. Precourt, Pilot Eileen M. Collions, Payload Cmdr, Jean-Francois Clervoy (ESA), Mission Specialists Edward T. Lu, Carlos I. Noriega, Elena V. Kondakova, Jerry M. Linenger (download), and C. Michael Foale (upload) continue the transfer supplies In all they moved about 3 tons of supplies and items earmarked for use by U.S. astronaut Mike Foale during his four month stay on the Mir as well as those designated for return to Earth for researchers and officials of the Russian Space Agency.
CASI
Space Transportation System Flights; Spacecrews; Payloads; Astronauts

19970027687 NASA Johnson Space Center, Houston, TX USA
STS-84 Day 07 Highlights
May 21, 1995; In English; 21 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-112937; BRF-1408G; NONP-NASA-VT-1997053791; No Copyright; Avail: CASI: C01, DVD
On this seventh day of the STS-84 mission, the flight crew, Cmdr. Charles J. Precourt, Pilot Eileen M. Collions, Payload Cmdr, Jean-Francois Clervoy (ESA), Mission Specialists Edward T. Lu; Carlos I. Noriega; Elena V. Kondakova; Jerry M. Linenger (download) and C. Michael Foale (upload) are seen saying their final farewells and closing the hatches on their two spacecraft. This wrap up five days of joint operations in which about 7,000 pounds of supplies, experiments and water were transferred between the two vehicles, as well as astronaut Mike Foale, who swapped places with Jerry Linenger for the start of a four-month research mission on the Russian outpost. The final handshakes by Commanders Charlie Precourt and Vasily Tsibliev came moments before the hatches between Atlantis and Mir swung shut.
CASI
Space Transportation System Flights; Spacecrews; Payloads; Astronauts

19970027701 NASA Johnson Space Center, Houston, TX USA
STS-84 Day 08 Highlights
May 22, 1995; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-112938; BRF-1408H; NONP-NASA-VT-1997053792; No Copyright; Avail: CASI: C01, DVD
On this eighth day of the STS-84 mission, the flight crew, Cmdr. Charles J. Precourt, Pilot Eileen M. Collions, Payload

Cmdr, Jean-Francois Clervoy (ESA), Mission Specialists Edward T. Lu, Carlos I. Noriega, Elena V. Kondakova, Jerry M. Linenger (download), and C. Michael Foale (upload) sing The Cosmonauts' Song' to Mir-23 crew members Vasily Tsibliev, Alexander Lazutkin and astronaut Mike Foale, who is beginning his four-month research mission on Mir. Foale and his new crewmates played music as Atlantis departed following the joint phase of the flight. Atlantis' undocking from Mir was modified from previous joint missions in that a flyaround of the station for photographic purposes was not conducted. Instead, Pilot Eileen Collins guided Atlantis below the Mir after the two spacecraft completed their physical separation, stopping three times at distances of 90, 300 and 1,500 feet to collect data from a European sensor device designed to assist future rendezvous of a proposed European Space Agency resupply vehicle with the International Space Station. Once the data collection was completed, the shuttle took advantage of natural orbital mechanics to drift beneath and out in front of Mir.
CASI
Space Transportation System Flights; Spacecrews; Orbital Mechanics; International Space Station; Astronauts; Cosmonauts

19970027702 NASA Johnson Space Center, Houston, TX USA
STS-84 Day 04 Highlights
May 18, 1995; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-112934; BRF-1408D; NONP-NASA-VT-1997053788; No Copyright; Avail: CASI: C01, DVD

On this forth day of the STS-84 mission, the flight crew, Cmdr. Charles J. Precourt, Pilot Eileen M. Collions, Payload Cmdr, Jean-Francois Clervoy (ESA), Mission Specialists Edward T. Lu, Carlos I. Noriega, Elena V. Kondakova, Jerry M. Linenger (download), and C. Michael Foale (upload) spend their first full day of work together conducting science investigations and transferring equipment from one spacecraft to the other. The Spacehab double module at the rear of Atlantis' payload bay was the focus of activity today as crew members conducted science experiments in the Biorack facility and transferred items to and from the Mir Space Station. In an interview with CBS News, Precourt and Tsibliev praise the sixth joint docking mission between the U.S. and Russia, indicating it is serving as a worthwhile exercise to prepare for the assembly of the International Space Station. Precourt also said the Mir appears to be in good condition despite recent systems problems, and said Mir will be a perfectly safe home for Foale for his stay on orbit.
CASI
Space Transportation System Flights; Spacecraft Docking; Spacecrews; Spacelab Payloads; Mir Space Station

19970027716 NASA Johnson Space Center, Houston, TX USA
STS-84 Day 03 Highlights
May 17, 1995; In English; 18 min. playing time, in color, with sound
Report No(s): NASA-TM-112933; BRF-1408C; NONP-NASA-VT-1997053787; No Copyright; Avail: CASI: C01, DVD

On this third day of the STS-84 mission, the flight crew, Cmdr. Charles J. Precourt, Pilot Eileen M. Collions, Payload Cmdr, Jean-Francois Clervoy (ESA), Mission Specialists Edward T. Lu, Carlos I. Noriega, Elena V. Kondakova, Jerry M. Linenger (download), and C. Michael Foale (upload) guide Atlantis to its docking with the Mir to cap off a 42-hour chase. Precourt greets Mir 23 Commander Vasily Tsibliev and, after embraces and handshakes, the crew members make their way into the Mir Core Module for a brief welcoming ceremony. During the ceremony, the Shuttle crew give Tsibliev and Flight Engineer Alexander Lazutkin baseball caps emblazoned with the STS-84 crew insignia as well as the traditional Russian offering of bread, tea and salt. Then, the ten astronauts and cosmonauts get down to business, first conducting a joint safety briefing to familiarize themselves with each other's craft.
CASI
Space Transportation System Flights; Spacecraft Docking; Spacecrews; Cosmonauts; Astronauts

19970027717 NASA Johnson Space Center, Houston, TX USA
STS-84 Day 02 Highlights
May 16, 1995; In English; 18 min. playing time, in color, with sound
Report No(s): NASA-TM-112932; BRF-1408B; NONP-NASA-VT-1997053786; No Copyright; Avail: CASI: C01, DVD

On this second day of the STS-84 mission, the flight crew, Cmdr. Charles J. Precourt, Pilot Eileen M. Collions, Payload Cmdr, Jean-Francois Clervoy (ESA), Mission Specialists Edward T. Lu, Carlos I. Noriega, Elena V. Kondakova, Jerry M. Linenger (download), and C. Michael Foale (upload) continues to close on the Mir Space Station in anticipation of the sixth linkup between the Shuttle and the Russian space complex. Preparations for the docking are nearly complete as Atlantis' seven

astronauts worked around the clock to check out the rendezvous tools that will be used during the final phase of the approach to Mir.
CASI
Space Transportation System Flights; Spacecraft Docking; Spacecrews; Mir Space Station; Astronauts

19970027718 NASA Johnson Space Center, Houston, TX USA
STS-84 Day 01 Highlights
May 15, 1995; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-112931; BRF-1408A; NONP-NASA-VT-1997053785; No Copyright; Avail: CASI: C01, DVD

On this first day of the STS-84 mission, the flight crew, Cmdr. Charles J. Precourt, Pilot Eileen M. Collions, Payload Cmdr, Jean-Francois Clervoy (ESA), Mission Specialists Edward T. Lu, Carlos I. Noriega, Elena V. Kondakova, Jerry M. Linenger (download), and C. Michael Foale (upload) can be seen preforming pre-launch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew can be seen being readied in the white room' for their mission. After the closing of the hatch and arm retraction, launch activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters.
CASI
Space Transportation System Flights; Payloads; Launching; Ignition; Spacecrews

19970028433 NASA Johnson Space Center, Houston, TX USA
STS-94 Day 08 Highlights
Jul. 08, 1995; In English; 14 min. playing time, in color, with sound
Report No(s): NASA-TM-113045; BRF-1409H; NONP-NASA-VT-1997051162; No Copyright; Avail: CASI: C01, DVD

On this eighth day of the STS-94 mission, the flight crew, Cmdr. James D. Halsell, Jr., Pilot Susan L. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Micheal L. Gernhardt and Donald A. Thomas, and Payload Specialists Gregory T. Linteris and Roger K. Crouch conduct status checks and perform video documentation of some of the Microgravity Science Laboratory experiments and activities in the Spacelab. The first part of Pilot Susan Still's day involves monitoring orbiter systems and working an in-flight maintenance procedure with the Shuttle Amateur Radio Experiment (SAREX).
CASI
Space Transportation System Flights; Spaceborne Experiments; Spacelab; Microgravity

19970028439 NASA Johnson Space Center, Houston, TX USA
STS-94 Day 02 Highlights
Jul. 02, 1995; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-113039; BRF-1409B; NONP-NASA-VT-1997051156; No Copyright; Avail: CASI: C01, DVD

On this second day of the STS-94 mission, the flight crew, Cmdr. James D. Halsell, Jr., Pilot Susan L. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Micheal L. Gernhardt and Donald A. Thomas, and Payload Specialists Gregory T. Linteris and Roger K. Crouch are seen continuing the payload activation process, as the research efforts of the Microgravity Science Laboratory (MSL) mission get into full swing.
CASI
Space Transportation System Flights; Spacecrews; Payloads

19970028440 NASA Johnson Space Center, Houston, TX USA
STS-94 Day 03 Highlights
Jul. 03, 1995; In English; 12 min. playing time, in color, with sound
Report No(s): NASA-TM-113040; BRF-1409C; NONP-NASA-VT-1997051157; No Copyright; Avail: CASI: C01, DVD

On this third day of the STS-94 mission, the flight crew, Cmdr. James D. Halsell, Jr., Pilot Susan L. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Micheal L. Gernhardt and Donald A. Thomas, and Payload Specialists Gregory T. Linteris and Roger K. Crouch are seen in the Microgravity Science Laboratory aboard Space Shuttle Columbia activating the final experiment facility and beginning additional experiments, among the more than 30 investigations to be conducted during the 16-day mission.
CASI
Space Transportation System Flights; Spacecrews; Space Shuttles; Payloads

19970028441 NASA Johnson Space Center, Houston, TX USA
STS-94 Day 04 Highlights
Jul. 04, 1995; In English; 10 min. playing time, in color, with sound
Report No(s): NASA-TM-113041; BRF-1409D; NONP-NASA-VT-1997051158; No Copyright; Avail: CASI: C01, DVD

On this forth day of the STS-94 mission, the flight crew, Cmdr. James D. Halsell, Jr., Pilot Susan L. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Micheal L. Gernhardt and Donald A. Thomas, and Payload Specialists Gregory T. Linteris and Roger K. Crouch have settled into a comfortable pace in their on-orbit home, Columbia. They continue their around-the-clock efforts with the experiments being flown as part of the Microgravity Science Laboratory payload. With no significant Shuttle system issues being worked, the crew is able to devote all of its efforts toward the science objectives of the flight.
CASI
Space Transportation System Flights; Payloads; Spacecrews

19970028442 NASA Johnson Space Center, Houston, TX USA
STS-94 Day 06 Highlights
Jul. 06, 1995; In English; 12 min. playing time, in color, with sound
Report No(s): NASA-TM-113043; BRF-1409F; NONP-NASA-VT-1997051160; No Copyright; Avail: CASI: C01, DVD

On this sixth day of the STS-94 mission, the flight crew, Cmdr. James D. Halsell, Jr., Pilot Susan L. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Micheal L. Gernhardt and Donald A. Thomas, and Payload Specialist Gregory T. Linteris and Roger K. Crouch continue their around-the-clock work with the Microgravity Science Laboratory experiments. During the morning period, Thomas works with the Large Isothermal Furnace experiment and the Glovebox unit. Columbia's systems continue to operate properly, providing a stable platform for microgravity science operations.
CASI
Space Transportation System Flights; Spacecrews; Payloads; Gravitational Effects

19970028458 NASA Johnson Space Center, Houston, TX USA
STS-94 Day 05 Highlights
Jul. 05, 1995; In English; 10 min. 40 sec. playing time, in color, with sound
Report No(s): NASA-TM-113042; BRF-1409E; NONP-NASA-VT-1997051159; No Copyright; Avail: CASI: C01, DVD

On this fifth day of the STS-94 mission, the flight crew, Cmdr. James D. Halsell, Jr., Pilot Susan L. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Micheal L. Gernhardt and Donald A. Thomas, and Payload Specialists Gregory T. Linteris and Roger K. Crouch continue their around-the-clock science efforts.
CASI
Space Transportation System Flights; Payloads; Space Flight; Space Shuttles

19970028460 NASA Johnson Space Center, Houston, TX USA
STS-94 Day 01 Highlights
Jul. 01, 1995; In English; 18 min. playing time, in color, with sound
Report No(s): NASA-TM-113038; BRF-1409A; NONP-NASA-VT-1997051155; No Copyright; Avail: CASI: C01, DVD

On this first day of the STS-94 mission, the flight crew (the orginial crew of mission STS-83), Cmdr. James D. Halsell, Jr., Pilot Susan L. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Micheal L. Gernhardt and Donald A. Thomas, and Payload Specialists Gregory T. Linteris and Roger K. Crouch can be seen performing pre-launch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew can be seen being readied in the 'white room' for their mission. After the closing of the hatch and arm retraction, launch activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters.
CASI
Space Transportation System Flights; Space Shuttle Boosters; Launching; Booster Rocket Engines

19970028466 NASA Johnson Space Center, Houston, TX USA
STS-94 Day 14 Highlights
Jul. 14, 1995; In English; 14 min. 40 sec. playing time, in color, with sound
Report No(s): NASA-TM-113050; BRF-1409N; NONP-NASA-VT-1997051167; No Copyright; Avail: CASI: C01, DVD

On this fourteenth day of the STS-94 mission, the flight crew, Cmdr. James D. Halsell, Jr., Pilot Susan L. Still, Payload Cmdr, Janice E. Voss, Mission Specialists Micheal L. Gernhardt and Donald A. Thomas, and Payload Specialists Gregory T. Linteris and Roger K. Crouch continue to focus on Columbia's Microgravity Science Laboratory mission. The seven astronauts work around the clock on two shifts supporting the more than 30 experiments in the Spacelab module. Work in the laboratory includes plant experiment and protein crystal growth status checks as well as work in the glovebox on the Coarsening in Solid-Liquid Mixtures experiment.
CASI
Space Transportation System Flights; Spacecrews; Spacelab; Protein Crystal Growth; Microgravity

19970028467 NASA Johnson Space Center, Houston, TX USA
STS-94 Day 09 Highlights
Jul. 09, 1995; In English; 13 min. 45 sec. playing time, in color, with sound
Report No(s): NASA-TM-113046; BRF-1409I; NONP-NASA-VT-1997051163; No Copyright; Avail: CASI: C01, DVD

On this ninth day of the STS-94 mission, the flight crew, Cmdr. James D. Halsell, Jr., Pilot Susan L. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Micheal L. Gernhardt and Donald A. Thomas, and Payload Specialists Gregory T. Linteris and Roger K. Crouch spend their morning in the Spacelab module working on several experiments. Thomas has been working with the Large Isothermal Furnace (LIF), a vacuum-heating furnace designed to heat large samples uniformly; the Middeck Glovebox (MGBX) unit; and the Internal Flows in a Free Drop Experiment (IFFD). The IFFD experiment involves containerless processing of materials using acoustic positioning techniques.
CASI
Space Transportation System Flights; Spacelab; Spacecrews; Payloads; Acoustic Levitation

19970028468 NASA Johnson Space Center, Houston, TX USA
STS-94 Day 12 Highlights
Jul. 12, 1995; In English; 16 min. playing time, in color, with sound
Report No(s): NASA-TM-113049; BRF-1409L; NONP-NASA-VT-1997051166; No Copyright; Avail: CASI: C01, DVD

On this twelfth day of the STS-94 mission, the flight crew, Cmdr. James D. Halsell, Jr., Pilot Susan L. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Micheal L. Gernhardt and Donald A. Thomas, and Payload Specialists Gregory T. Linteris and Roger K. Crouch focus on developing better methods for the efficient use of fossil fuels while reducing emissions and air pollutants. The seven-astronaut crew - divided into two teams - provides on-orbit assistance to ground controllers throughout the mission conducting these, and as many as 30 other, experiments in the Spacelab pressurized module. The goal is to emulate what laboratory work will be like on the future International Space Station.
CASI
Space Transportation System Flights; Spacecrews; Spacelab; International Space Station

19970028469 NASA Johnson Space Center, Houston, TX USA
STS-94 Day 11 Highlights
Jul. 11, 1995; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-113048; BRF-1409K; NONP-NASA-VT-1997051165; No Copyright; Avail: CASI: C01, DVD

On this eleventh day of the STS-83 mission, the flight crew, Cmdr. James D. Halsell, Jr. Pilot Susan L. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Micheal L. Gernhardt and Donald A. Thomas, and Payload Specialist Gregory T. Linteris and Roger K. Crouch conduct an interview with CBS' Up to the Minute' program during which they discuss the activities and progress that has been made so far on the flight.
CASI
Space Transportation System Flights; Spacecrews; Microgravity Applications; Space Flight

19970028470 NASA Johnson Space Center, Houston, TX USA
STS-94 Day 10 Highlights
Jul. 10, 1995; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-113047; BRF-1409J; NONP-NASA-VT-1997051164; No Copyright; Avail: CASI: C01, DVD

On this tenth day of the STS-94 mission, the flight crew, Cmdr. James D. Halsell, Jr., Pilot Susan L. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Micheal L. Gernhardt and Donald A. Thomas, and Payload Specialists Gregory T. Linteris and Roger K. Crouch are more than one week into mission. The seven crewmembers aboard Columbia are continuing their around-the-clock science investigations in the Spacelab module, focusing on how various materials and liquids change and behave in a microgravity environment.
CASI
Space Transportation System Flights; Spacecrews; Spacelab; Microgravity

19970028507 NASA Johnson Space Center, Houston, TX USA
STS-94 Day 07 Highlights
Jul. 07, 1995; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-113044; BRF-1409G; NONP-NASA-VT-1997051161; No Copyright; Avail: CASI: C01, DVD

On this seventh day of the STS-94 mission, the flight crew, Cmdr. James D. Halsell, Jr., Pilot Susan L. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Micheal L. Gernhardt and Donald A. Thomas, and Payload Specialists Gregory T. Linteris and Roger K. Crouch continue their around-the-clock scientific effort to examine how various materials and liquids change and behave in the weightless environment of space. With Columbia providing a stable platform for scientific activity, the seven-member crew has been able to devote its full attention to the more than 30 Microgravity Science Laboratory (MSL) experiments on board.
CASI
Space Transportation System Flights; Spacecrews; Payloads; Microgravity

19970028512 NASA Johnson Space Center, Houston, TX USA
STS-94 Day 15 Highlights
Jul. 15, 1995; In English; 17 min. playing time, in color, with sound
Report No(s): NASA-TM-113051; BRF-1409P; NONP-NASA-VT-1997051168; No Copyright; Avail: CASI: C01, DVD

On this fifteenth day of the STS-94 mission the flight crew, Cmdr. James D. Halsell, Jr., Pilot Susan L. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Micheal L. Gernhardt and Donald A. Thomas, and Payload Specialists Gregory T. Linteris and Roger K. Crouch express thanks to all those on the ground who prepared the shuttle, crew, and payload for an unprecedented repeat launch to complete work with the Microgravity Science Laboratory. The first flight of Columbia with the laboratory, then designated mission STS-83, was cut short due to a faulty fuel cell.
CASI
Space Transportation System Flights; Spacecrews; Space Shuttle Orbiters; Microgravity

19970028513 NASA Johnson Space Center, Houston, TX USA
STS-94 Day 16 Highlights
Jul. 16, 1995; In English; 12 min. playing time, in color, with sound
Report No(s): NASA-TM-113052; BRF-1409Q; NONP-NASA-VT-1997051169; No Copyright; Avail: CASI: C01, DVD

On this sixteenth day of the STS-94 mission, the flight crew, Cmdr. James D. Halsell, Jr., Pilot Susan L. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Micheal L. Gernhardt and Donald A. Thomas, and Payload Specialists Gregory T. Linteris and Roger K. Crouch begin closing up shop in preparation for return to the Kennedy Space Center in Florida.
CASI
Space Transportation System Flights; Spacecrews; Astronauts; Microgravity; Space Flight

19970029326 NASA Johnson Space Center, Houston, TX USA
STS-85 Day 01 Highlights
Aug. 07, 1997; In English; 15 min. playing time, in color, with sound
Report No(s): NASA-TM-112901; BRF-1410A; NONP-NASA-VT-1997047849; No Copyright; Avail: CASI: C01, DVD

On this first day of the STS-85 mission, the flight crew, Cmdr. Curtis L. Brown, Jr., Pilot Kent V. Rominger, Payload

Cmdr. N. Jan Davis (Ph.D.), Mission Specialists Robert L. Curbeam, Jr., and Stephen K. Robinson (Ph.D.), and Payload Specialist Bjarni V. Tryggvason can be seen performing pre-launch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew can be seen being readied in the 'white room' for their mission. After the closing of the hatch and arm retraction, launch activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters.
CASI
Space Transportation System Flights; Spacecrews; Countdown; Launching; Space Exploration; Space Flight

19970035946 NASA Johnson Space Center, Houston, TX USA
STS-85 Day 06 Highlights
Aug. 12, 1997; In English; 15 min. playing time, in color, with sound
Report No(s): NASA/TM-97-112902; BRF-1410F; NONP-NASA-VT-1997047847; No Copyright; Avail: CASI: C01, DVD

On this sixth day of the STS-85 mission, the flight crew, Cmdr. Curtis L. Brown, Jr., Pilot Kent V. Rominger, Payload Cmdr. N. Jan Davis (Ph.D.), Mission Specialists Robert L. Curbeam, Jr. and Stephen K. Robinson (Ph.D.), and Payload Specialist Bjarni V. Tryggvason today continue their work with the Bioreactor Demonstration System designed to perform cell biology experiments under controlled conditions. Tryggvason, today continues his work with the Microgravity Vibration Isolation Mount which uses magnets to levitate a platform and protect sensitive microgravity processing experiments from vibrations.
CASI
Space Transportation System Flights; Space Transportation System; Microgravity; Bioreactors

19970035947 NASA Johnson Space Center, Houston, TX USA
STS-85 Day 05 Highlights
Aug. 11, 1997; In English; 15 min. playing time, in color, with sound
Report No(s): NASA/TM-97-112903; BRF-1410E; NONP-NASA-VT-1997047848; No Copyright; Avail: CASI: C01, DVD

On this fifth day of the STS-85 mission, the flight crew, Cmdr. Curtis L. Brown, Jr., Pilot Kent V. Rominger, Payload Cmdr. N. Jan Davis (Ph.D.), Mission Specialists Robert L. Curbeam, Jr. and Stephen K. Robinson (Ph.D.), and Payload Specialist Bjarni V. Tryggvason once again test the small robotic arm serving as a prototype for one that will fly as part of the Japanese Experiment Module on the International Space Station. Simulated orbital replacement unit detachment and reattachment will be the focus. Bob Curbeam discusses the progress of the flight with a television station in St Louis, before continuing his work with the Bioreactor Demonstration System designed to perform cell biology experiments under controlled conditions. Immediately after Curbeam's interview, Canadian Payload Specialist Bjarni Tryggvason is set to talk to elementary and high school students at a summer camp in Saskatchewan, Canada.
CASI
Space Transportation System Flights; Space Transportation System; Robot Arms; Japanese Space Program; International Space Station

19970035948 NASA Johnson Space Center, Houston, TX USA
STS-84 Mission Highlights Resource Tape
Jun. 24, 1997; In English; 58 min. 28 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-112907; JSC-1648; NONP-NASA-VT-1996047850; No Copyright; Avail: CASI: C01, DVD

The STS-84 mission flight crew, Cmdr. Charles J. Precourt, Pilot Eileen M. Collions, Payload Cmdr. Jean-Francois Clervoy (ESA), Mission Specialists Edward T. Lu, Carlos I. Noriega, Elena V. Kondakova, and Jerry M. Linenger can be seen performing pre-launch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew can be seen being readied in the white room' for their mission. After the closing of the hatch and arm retraction, launch activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters. The rendezvous with the Mir Space Station, along with onboard activities, and landing are included. Also included are shuttle-to-ground transmission between the crew and Mission Control and various earthviews.
CASI
Space Transportation System Flights; Mir Space Station; Launching; Ignition; Countdown

19970035955 NASA Johnson Space Center, Houston, TX USA

STS-85 Day 10 Highlights

Aug. 16, 1997; In English; 12 min. playing time, in color, with sound

Report No(s): NASA/TM-97-112899; BRF-1410J; NONP-NASA-VT-1997047840; No Copyright; Avail: CASI: C01, DVD

On this tenth day of the STS-85 mission, the flight crew, Cmdr. Curtis L. Brown, Jr., Pilot Kent V. Rominger, Payload Cmdr. N. Jan Davis (Ph.D.), Mission Specialists Robert L. Curbeam, Jr. and Stephen K. Robinson (Ph.D.), and Payload Specialist Bjarni V. Tryggvason watch over an experiment designed to study how cooling systems operate in space. With operating problems resolved on the Two-Phase Fluid Loop Experiment, or TPFLEX (teepee flex), investigators expect to get all the data planned for the mission. Robinson later assisted, where necessary, with the CRISTA-SPAS rendezvous activities.

CASI

Space Transportation System Flights; Space Transportation System; Payloads

19970035956 NASA Johnson Space Center, Houston, TX USA

STS-85 Day 11 Highlights

Aug. 17, 1997; In English; 15 min. playing time, in color, with sound

Report No(s): NASA/TM-97-112900; BRF-1410K; NONP-NASA-VT-1997047841; No Copyright; Avail: CASI: C01, DVD

On this eleventh day of the STS-85 mission, the flight crew, Cmdr. Curtis L. Brown, Jr., Pilot Kent V. Rominger, Payload Cmdr. N. Jan Davis (Ph.D.), Mission Specialists Robert L. Curbeam, Jr. and Stephen K. Robinson (Ph.D.), and Payload Specialist Bjarni V. Tryggvason finish packing up the last of the loose items in the crew cabin, and the shuttle's payload bay doors will be closed. Returning to Earth with the astronauts will be the German-built Cryogenic Infrared Spectrometers and Telescopes for the Atmosphere-Shuttle Pallet Satellite-2 (CRISTA-SPAS-2), which spent nine days flying in formation with Discovery and recording data about the composition of the Earth's atmosphere, and the Technology Applications and Science-1 (TAS-01) and International Extreme Ultraviolet Hitchhiker-2 (IEH-02) instruments, which scanned the Earth and the solar system from the payload bay. Also aboard will be the Japanese-built Manipulator Flight Demonstration (MFD) experiment, which tested a small robotic arm destined for use on the future International Space Station.

CASI

Space Transportation System Flights; Space Transportation System; Shuttle Pallet Satellites; Robot Arms; Manipulators; International Space Station; Astronauts

19970035957 NASA Johnson Space Center, Houston, TX USA

STS-85 Day 08 Highlights

Aug. 14, 1997; In English; 15 min. playing time, in color, with sound

Report No(s): NASA/TM-97-112807; BRF-1410H; NONP-NASA-VT-1997047843; No Copyright; Avail: CASI: C01, DVD

On this eighth day of the STS-85 mission, the flight crew, Cmdr. Curtis L. Brown, Jr., Pilot Kent V. Rominger, Payload Cmdr. N. Jan Davis (Ph.D.), Mission Specialists Robert L. Curbeam, Jr. and Stephen K. Robinson (Ph.D.), and Payload Specialist Bjarni V. Tryggvason entered the final portion of its flight. The new Mir 24 crew of Commander Anatoly Solovyev and Flight Engineer Pavel Vinogradov, who arrived on the station the same day Discovery was launched, bid farewell to Mir 23 Commander Vasily Tsibliev and Flight Engineer Alexander Lazutkin who are returning home after 185 days in space. The Soyuz vehicle carrying the Mir 23 crew home undocked from the station. Robinson again used the Southwest Ultraviolet Imaging System (SWUIS), a 7-inch imaging telescope that is pointed out of the orbiter's middeck hatch window, to observe the Hale-Bopp comet. Curbeam continued his work with the Bioreactor Demonstration System designed to perform cell biology experiments under controlled conditions. Tryggvason spent part of his time troubleshooting a computer hard drive system that support the Microgravity Vibration Isolation Mount experiment.

CASI

Space Transportation System Flights; Space Transportation System; Bioreactors; Microgravity; Gravitational Effects

19970035958 NASA Johnson Space Center, Houston, TX USA

STS-85 Day 09 Highlights

Aug. 15, 1997; In English; 15 min. 30 sec. playing time, in color, with sound

Report No(s): NASA/TM-97-112898; BRF-1410I; NONP-NASA-VT-1997047844; No Copyright; Avail: CASI: C01, DVD

On this ninth day of the STS-85 mission, the flight crew, Cmdr. Curtis L. Brown, Jr., Pilot Kent V. Rominger, Payload Cmdr. N. Jan Davis (Ph.D.), Mission Specialists Robert L. Curbeam, Jr. and Stephen K. Robinson (Ph.D.), and Payload

Specialist Bjarni V. Tryggvason watch over the Manipulator Flight Demonstration (MFD) experiment while Japanese investigators again maneuvere the Small Fine Arm remotely from a control room near Mission Control. It is the final planned work with the arm during this mission. While MFD operations are ongoing, Robinson again uses the Southwest Ultraviolet Imaging System's ultraviolet imaging telescope to observe Comet Hale-Bopp and Curbeam continue his work with the Bioreactor Demonstration System designed to perform cell biology experiments under controlled conditions. Tryggvason spends his day supporting data gathering with the Microgravity Vibration Isolation Mount experiment. Before the crew's workday began, they discussed the mission's progress with reporters in the U.S. and Canada as part of the traditional crew news conference. Questions ranged from life in space for the first time space travelers to providing a report card on the more than 24 experiments being conducted throughout the mission.
CASI
Space Transportation System Flights; Space Transportation System; Microgravity; Manipulators; Ground Based Control; Gravitational Effects; Flight Tests

19970035959 NASA Johnson Space Center, Houston, TX USA
STS-85 Day 03 Highlights
Aug. 09, 1997; In English; 15 min. playing time, in color, with sound
Report No(s): NASA/TM-97-112905; BRF-1410C; NONP-NASA-VT-1997047845; No Copyright; Avail: CASI: C01, DVD

On this third day of the STS-85 mission, the flight crew, Cmdr. Curtis L. Brown, Jr., Pilot Kent V. Rominger, Payload Cmdr. N. Jan Davis (Ph.D.), Mission Specialists Robert L. Curbeam, Jr., and Stephen K. Robinson (Ph.D.), and Payload Specialist Bjarni V. Tryggvason continue to conduct and monitor experiments that will help some researchers measure atmospheric phenomena while other crew members gather data on experiments and hardware that will be used on the International Space Station (ISS). Serving as a testbed for those ISS evaluations, the orbiter is functioning in excellent fashion while the crew gathers data using the Space Vision System.
CASI
Space Transportation System Flights; Space Transportation System; International Space Station

19970035992 NASA Johnson Space Center, Houston, TX USA
STS-94 Mission Highlights Resource Tape
Aug. 18, 1997; In English; 54 min. 5 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-113062; JSC-1652; NONP-NASA-VT-1997056808; No Copyright; Avail: CASI: C01, DVD

The flight crew of STS-94, Cmdr. James D. Halsell, Jr., Pilot Susan L. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Micheal L. Gernhardt and Donald A. Thomas, and Payload Specialists Gregory T. Linteris and Roger K. Crouch can be seen preforming pre-launch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew can be seen being readied in the white room' for their mission. After the closing of the hatch and arm retraction, launch activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters. The crew is seen continuing the payload activation process, as the research efforts of the Microgravity Science Laboratory (MSL) mission get into full swing. The crew is seen in the Microgravity Science Laboratory aboard Space Shuttle Columbia activating the final experiment facility and beginning additional experiments, among the more than 30 investigations to be conducted during the 16-day mission. The tape concludes with the re-entery and landing of the Shuttle.
CASI
Solid Propellant Rocket Engines; Space Shuttle Boosters; Space Shuttles; Microgravity; Launching; Ignition; Flight Crews; Countdown; Booster Rocket Engines

19970035993 NASA Johnson Space Center, Houston, TX USA
STS-94 Day 13 Highlights
Jul. 13, 1997; In English; 15 min. playing time, in color, with sound
Report No(s): NASA/TM-97-112629; BRF-1409M; NONP-NASA-VT-1997049514; No Copyright; Avail: CASI: C01, DVD

On this thirteenth day of the STS-94 mission, the flight crew, Cmdr. James D. Halsell, Jr., Pilot Susan L. Still, Payload Cmdr. Janice E. Voss, Mission Specialists Micheal L. Gernhardt and Donald A. Thomas, and Payload Specialists Gregory T. Linteris and Roger K. Crouch resume work on the Droplet Combustion Experiment, burning a drop of heptane fuel at one-quarter of the atmospheric pressure on Earth. The payload controllers collect volumes of data from experiments being

conducted by the seven astronauts on the Microgravity Science Laboratory mission. Halsell, Still Thomas and Linteris are seen being interviewed by the ABC Radio Network and discussing mission objectives.
CASI
Space Transportation System Flights; Microgravity; Drops (Liquids); Combustion; Astronauts

19970035994 NASA Johnson Space Center, Houston, TX USA
STS-85 Day 07 Highlights
Aug. 13, 1997; In English; 15 min. playing time, in color, with sound
Report No(s): NASA/TM-97-112896; BRF-1410G; NONP-NASA-VT-1997047846; No Copyright; Avail: CASI: C01, DVD

On this seventh day of the STS-85 mission, the flight crew, Cmdr. Curtis L. Brown, Jr., Pilot Kent V. Rominger, Payload Cmdr. N. Jan Davis (Ph.D.), Mission Specialists Robert L. Curbeam, Jr. and Stephen K. Robinson (Ph.D.), and Payload Specialist Bjarni V. Tryggvason continue to test the Manipulator Flight Demonstration experiment, or Small Fine Arm, supplied by the National Space Development Agency of Japan, which was powered up for a final day of operations. The tests today, however, center on the ability of the arm to be remotely operated from the ground instead of onboard by the crew. The ground-commanded maneuvers of the arm demonstrated the usefulness of conducting work in space even while the crew is asleep or busy with other tasks.
CASI
Space Transportation System Flights; Space Transportation System; Manipulators; Flight Tests

19970035995 NASA Johnson Space Center, Houston, TX USA
STS-85 Day 02 Highlights
Aug. 08, 1997; In English; 15 min. playing time, in color, with sound
Report No(s): NASA/TM-97-112906; BRF-1410B; NONP-NASA-VT-1997047842; No Copyright; Avail: CASI: C01, DVD

On this second day of the STS-85 mission, the flight crew, Cmdr. Curtis L. Brown, Jr., Pilot Kent V. Rominger, Payload Cmdr. N. Jan Davis (Ph.D.), Mission Specialists Robert L. Curbeam, Jr. and Stephen K. Robinson (Ph.D.), and Payload Specialist Bjarni V. Tryggvason activated instruments of the Technology Applications and Science (TAS), including the Shuttle Laser Altimeter, the Infrared Spectral Imaging Radiometer (ISIR), the Cryogenic On-Orbit Long Life Active Refrigerator (COOLAR), Two Phase Flow (TPF), Critical Viscosity of Xeonon (CVX) and were initializing the Solar Constant Experiment (SOLCON) and preparing for its first observation. Work with the Japanese-built Manipulator Flight Demonstration (MFD) experiment l begins when Davis begins checkout of its Small Fine Arm, destined for use outside the International Space Station's Japanese Experiment Module. Brown is seen being interviewed by WBTV-TV, Charlotte, N.C., and WTVD-TV, Raleigh-Durham, N.C.
CASI
Space Transportation System Flights; Space Transportation System; Japanese Space Program; Manipulators; Spacecrews; Flight Tests

19970035996 NASA Johnson Space Center, Houston, TX USA
STS-85 Day 04 Highlights
Aug. 10, 1997; In English; 15 min. playing time, in color, with sound
Report No(s): NASA/TM-97-112904; BRF-1410D; NONP-NASA-VT-1997047839; No Copyright; Avail: CASI: C01, DVD

On this fourth day of the STS-85 mission, the flight crew, Cmdr. Curtis L. Brown, Jr., Pilot Kent V. Rominger, Payload Cmdr. N. Jan Davis (Ph.D.), Mission Specialists Robert L. Curbeam, Jr., and Stephen K. Robinson (Ph.D.), and Payload Specialist Bjarni V. Tryggvason focus their attention on testing a small, robotic arm serving as a prototype for use on the future International Space Station. They also and conduct experiments on the Shuttle's middeck.
CASI
Space Transportation System Flights; Space Transportation System; International Space Station; Robot Arms

19970036139 NASA Johnson Space Center, Houston, TX USA
STS-72 Flight Day 9
Jan. 19, 1996; In English; 22 min. 50 sec. playing time, in color, with sound
Report No(s): NASA-TM-111380; BRF-1389I; NONP-NASA-VT-1996034079; No Copyright; Avail: CASI: C01, DVD

On this ninth day of the STS-72 mission, the flight crew, Cmdr. Brian Duffy, Pilot Brent W. Jett, and Mission Specialists

Leroy Chiao, Daniel T. Berry, Winston E. Scott, and Koichi Wakata (NASDA), awakened to music from the movie Star Wars'. The astronauts conducted a news conference via satellite and answered questions from both Japanese and U.S. reporters at the Kennedy Space Center and the Johnson Space Center. The preparation for the scheduled night landing continues from the previous day's activities.
CASI
Space Transportation System; Space Transportation System Flights; Space Shuttle Missions; Flight Crews; Astronauts; Endeavour (Orbiter)

19970036140 NASA Johnson Space Center, Houston, TX USA
STS-72 Flight Day 6
Jan. 16, 1996; In English; 30 min. playing time, in color, with sound
Report No(s): NASA-TM-111383; BRF-1389F; NONP-NASA-VT-1996034082; No Copyright; Avail: CASI: C01, DVD

On this sixth day of the STS-72 mission, the flight crew, Cmdr. Brian Duffy, Pilot Brent W. Jett, and Mission Specialists Leroy Chiao, Daniel T. Berry, Winston E. Scott, and Koichi Wakata (NASDA), successfully retrieved the OAST-Flyer satellite and berthed it in the shuttle's cargo bay with Wakata using the shuttle's robot arm. Dr. Barry conducted an interview with a radio station in Houston via satellite link. He answered general questions concerning the spacewalks, the equipment, and the planned International Space Station. Earth views include cloud cover, water masses, and land masses.
CASI
Space Transportation System; Space Transportation System Flights; Space Shuttle Missions; Endeavour (Orbiter); Payload Retrieval (STS); Scientific Satellites; Space Communication; Remote Manipulator System

19970036142 NASA Johnson Space Center, Houston, TX USA
STS-72 Flight Day 5
Jan. 15, 1996; In English; 30 min. playing time, in color, with sound
Report No(s): NASA-TM-111384; BRF-1389E; NONP-NASA-VT-1996034083; No Copyright; Avail: CASI: C01, DVD

On this fifth day of the STS-72 mission, the flight crew, Cmdr. Brian Duffy, Pilot Brent W. Jett, and Mission Specialists Leroy Chiao, Daniel T. Berry, Winston E. Scott, and Koichi Wakata (NASDA), awakened to music from the television show, Star Trek: The Next Generation'. Chiao and Barry are shown suiting up for the first of the two scheduled 6 1/2 hour spacewalks and, later, conducting tests with various tools and materials from the shuttle's cargo bay during the spacewalk. The new heating and cooling units in the spacesuits will be tested during these EVAs.
CASI
Space Transportation System; Space Transportation System Flights; Extravehicular Activity; Endeavour (Orbiter); Space Shuttle Missions; Flight Crews; Spaceborne Experiments

19970036184 NASA Johnson Space Center, Houston, TX USA
STS-72 Flight Day 8
Jan. 18, 1996; In English; 30 min. playing time, in color, with sound
Report No(s): NASA-TM-111381; BRF-1389H; NONP-NASA-VT-1996034080; No Copyright; Avail: CASI: C01, DVD

On this eighth day of the STS-72 mission, the flight crew, Cmdr. Brian Duffy, Pilot Brent W. Jett, and Mission Specialists Leroy Chiao, Daniel T. Berry, Winston E. Scott, and Koichi Wakata (NASDA), awakened to the Alanis Morisette song, All I Really Want'. Secondary middeck experiments were completed along with the crew having some free personal time. Duffy, Scott, and Wakata were interviewed via satellite by students from Johannesburg, South Africa as part of the U.S. Information Agency's Worldnet' program. They answered general questions from the students regarding their mission, the spacewalks, and the International Space Station. Earth views included cloud cover, land masses, a close-up of a storm system over Houston, Texas, and various other night time shots of the Earth.
CASI
Space Transportation System; Space Transportation System Flights; Space Shuttle Missions; Flight Crews; Spaceborne Experiments; Communication Networks; Space Communication; Endeavour (Orbiter); Downlinking

19970036185 NASA Johnson Space Center, Houston, TX USA

STS-72 Mission Update Flight Day 9

Jan. 19, 1996; In English; 9 min. 23 sec. playing time, in color, with sound

Report No(s): NASA-TM-111378; BRF-1398I; NONP-NASA-VT-1996034077; No Copyright; Avail: CASI: C01, DVD

In this video clip, the NASA Television show, Mission Update,' hosted by Pat Ryan, provides a synopsis of the ninth day of the STS-72 Space Shuttle mission. The scheduled activities, their times, and who will be conducting them are highlighted along with various film clips showing different aspects of the mission.

CASI

Space Transportation System; Space Transportation System Flights; Space Shuttle Missions; Endeavour (Orbiter); News Media; Television Systems

19970036251 NASA Johnson Space Center, Houston, TX USA

STS-72 Flight Day 7

Jan. 17, 1996; In English; 26 min. 45 sec. playing time, in color, with sound

Report No(s): NASA-TM-111382; BRF-1389G; NONP-NASA-VT-1996034081; No Copyright; Avail: CASI: C01, DVD

On this seventh day of the STS-72 mission, the flight crew, Cmdr. Brian Duffy, Pilot Brent W. Jett, and Mission Specialists Leroy Chiao, Daniel T. Berry, Winston E. Scott, and Koichi Wakata (NASDA), awakened to music from the Walt Disney movie, Snow White and the Seven Dwarfs'. Chiao and Scott performed the second spacewalk of the mission where they tested equipment and work platforms that will be used in building the planned International Space Station. This space walk was almost seven hours long. Wakata conducted an interview with and answered questions from six graders from a Japanese school in Houston, Texas.

CASI

Space Transportation System; Space Transportation System Flights; Space Shuttle Missions; Flight Crews; Spaceborne Experiments; Extravehicular Activity; Space Communication; Endeavour (Orbiter)

19970036252 NASA Johnson Space Center, Houston, TX USA

STS-72 Mission Update Flight Day 8

Jan. 18, 1996; In English; 7 min. 22 sec. playing time, in color, with sound

Report No(s): NASA-TM-111379; BRF-1398H; NONP-NASA-VT-1996034078; No Copyright; Avail: CASI: C01, DVD

The NASA Television show, Mission Update,' hosted by Pat Ryan, provides a synopsis of the eighth day of the STS-72 Space Shuttle mission in this video clip. The scheduled activities, their times, and who will be conducting them are highlighted along with various film clips from the beginning of the mission to date.

CASI

Space Transportation System; Space Transportation System Flights; Space Shuttle Missions; Endeavour (Orbiter); News Media; Television Systems

19980004688 NASA Johnson Space Center, Houston, TX USA

STS-86 Day 01 Highlights

Sep. 26, 1997; In English; 15 min. playing time, in color, with sound

Report No(s): NASA/TM-97-205911; BRF-1411A; NONP-NASA-VT-1997077152; No Copyright; Avail: CASI: C01, DVD

On this first day of the STS-86 mission, the flight crew, Cmdr. James D. Wetherbee, Jr., Pilot Michael J. Bloomfield, Mission Specialists Scott E. Parazynski, Jean-Loup Chretien, Vladmir G. Titov, Wendy B. Lawrence and David A. Wolf can be seen performing pre-launch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew can be seen being readied in the 'white room' for their mission. After the closing of the hatch and arm retraction, launch activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters.

CASI

Space Transportation System Flights; Countdown; Launching; Space Shuttles; Liftoff (Launching); Spacecraft Launching; Launch Vehicles; Ignition; Astronauts

19980006562 NASA Johnson Space Center, Houston, TX USA
STS-86 Day 02 Highlights
Sep. 26, 1997; In English; 23 min. playing time, in color, with sound
Report No(s): NASA/TM-97-205912; BRF-1411B; NONP-NASA-VT-1997077153; No Copyright; Avail: CASI: C01, DVD

On this second day of the STS-86 mission, the flight crew, Cmdr. James D. Wetherbee, Jr., Pilot Michael J. Bloomfield, Mission Specialists Scott E. Parazynski, Jean-Loup Chretien, Vladmir G. Titov, Wendy B. Lawrence and David A. Wolf discuss the mission's progress with reporters as part of the traditional crew news conference. Also included are various panoramic views of the earth as viewed from cameras mounted in the payload bay.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Space Shuttle Payloads; Space Shuttles; Space Shuttle Orbiters; Space Shuttle Missions

19980006563 NASA Johnson Space Center, Houston, TX USA
STS-86 Day 03 Highlights
Sep. 27, 1997; In English; 19 min. playing time, in color, with sound
Report No(s): NASA/TM-97-205913; BRF-1411C; NONP-NASA-VT-1997077154; No Copyright; Avail: CASI: C01, DVD

On this third day of the STS-86 mission, the flight crew, Cmdr. James D. Wetherbee, Jr., Pilot Michael J. Bloomfield, Mission Specialists Scott E. Parazynski, Jean-Loup Chretien, Vladmir G. Titov, Wendy B. Lawrence and David A. Wolf conduct a series of engine firings that are designed to refine Atlantis' approach to Mir. With his crewmates providing range rate and closure data obtained from a variety of tools on board, Wetherbee manually flys Atlantis up toward Mir. After docking, the hatches between the two vehicles are swung open allowing Wetherbee and Mir Commander Anatoly Solovyev to greet each other in the airlock. Wetherbee hands Solovyev a new computer for the Mir which was brought into orbit by Atlantis for installation following the docking phase of the mission. The ten crewmembers spend a few minutes greeting one another at the start of their joint work which will involve the transfer of some four tons of supplies and water from Atlantis to the Mir.
CASI
Space Transportation System Flights; Space Transportation System; Spacecraft Docking; Spacecrews

19980006564 NASA Johnson Space Center, Houston, TX USA
STS-86 Day 04 Highlights
Sep. 28, 1997; In English; 21 min. playing time, in color, with sound
Report No(s): NASA/TM-97-205914; BRF-1411D; NONP-NASA-VT-1997077155; No Copyright; Avail: CASI: C01, DVD

On this forth day of the STS-86 mission, the flight crew, Cmdr. James D. Wetherbee, Jr., Pilot Michael J. Bloomfield, Mission Specialists Scott E. Parazynski, Jean-Loup Chretien, Vladmir G. Titov, Wendy B. Lawrence and David A. Wolf spend their first full day aboard the Atlantis-Mir space complex. The ten astronauts and cosmonauts begin the transfer of more than four tons of supplies. With that transfer, Mike Foale will conclude 134 days as a Mir crew member and board Atlantis as a member of the STS-86 crew. Foale spends time with Wolf, acquainting him with his new home and showing him the location of experiments and hardware.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Supplying; Payload Delivery (STS); Space Shuttle Main Engine; Space Shuttle Missions; Space Shuttle Orbiters; Space Shuttle Payloads

19980006565 NASA Johnson Space Center, Houston, TX USA
STS-86 Day 05 Highlights
Sep. 29, 1997; In English; 17 min. playing time, in color, with sound
Report No(s): NASA/TM-97-205916; BRF-1411E; NONP-NASA-VT-1997077157; No Copyright; Avail: CASI: C01, DVD

On this fifth day of the STS-86 mission, the flight crew, Cmdr. James D. Wetherbee, Jr., Pilot Michael J. Bloomfield, Mission Specialists Scott E. Parazynski, Jean-Loup Chretien, Vladmir G. Titov, Wendy B. Lawrence and Mike Foale continue their transfer activities today, moving more supplies and water to the Russian outpost as U.S. astronaut Dave Wolf settles in for his four-month mission on the space station.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Supplying; Space Stations; Payload Retrieval (STS)

19980006566 NASA Johnson Space Center, Houston, TX USA
STS-86 Day 07 Highlights
Oct. 01, 1997; In English; 21 min. playing time, in color, with sound
Report No(s): NASA/TM-97-205917; BRF-1411G; NONP-NASA-VT-1997077158; No Copyright; Avail: CASI: C01, DVD

On this seventh day of the STS-86 mission, the flight crew, Cmdr. James D. Wetherbee, Jr., Pilot Michael J. Bloomfield, Mission Specialists Scott E. Parazynski, Jean-Loup Chretien, Vladmir G. Titov, Wendy B. Lawrence and Mike Foale are seen in preparations for a planned five-hour spacewalk to retrieve four experiment packages and to test tools and techniques for construction of the International Space Station. Parazynski and Titov are seen floating out of a hatch on Atlantis' tunnel adapter in front of the Orbiter Docking System to begin their spacewalk. They then affix a 121-pound instrument called a Solar Array Cap to the Docking Module for future use by Russian cosmonauts to seal off a suspected breach in the hull of the Spektr Module.
CASI
International Space Station; Solar Arrays; Space Transportation System; Space Transportation System Flights; Spacecraft Docking; Spacecrews

19980006567 NASA Johnson Space Center, Houston, TX USA
STS-86 Day 08 Highlights
Oct. 02, 1997; In English; 23 min. 45 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-205918; BRF-1411H; NONP-NASA-VT-1997077159; No Copyright; Avail: CASI: C01, DVD

On this eighth day of the STS-86 mission, the flight crew, Cmdr. James D. Wetherbee, Jr., Pilot Michael J. Bloomfield, Mission Specialists Scott E. Parazynski, Jean-Loup Chretien, Vladmir G. Titov, Wendy B. Lawrence and Mike Foale and the Mir crew take a break from their busy schedules to hold a news conference. They talk with mdeia assembled in the USA, Russia and France.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Remote Manipulator System; Space Shuttle Main Engine; Space Shuttle Missions; Space Shuttle Orbiters; Space Shuttle Payloads

19980006568 NASA Johnson Space Center, Houston, TX USA
STS-86 Day 10 Highlights
Oct. 04, 1997; In English; 23 min. playing time, in color, with sound
Report No(s): NASA/TM-97-205920; BRF-1411J; NONP-NASA-VT-1997077161; No Copyright; Avail: CASI: C01, DVD

On this tenth day of the STS-86 mission, the flight crew, Cmdr. James D. Wetherbee, Jr., Pilot Michael J. Bloomfield, Mission Specialists Scott E. Parazynski, Jean-Loup Chretien, Vladmir G. Titov, Wendy B. Lawrence and Mike Foale are seen talking with four test subjects in an advance life support test underway at Johnson Space Center in Houston. The test team entered a closed chamber in Houston September 19 and will remain sealed inside until late December evaluating the effectiveness of regenerative life support systems that could be used for extended space missions.
CASI
Space Missions; Space Transportation System; Space Transportation System Flights; Spacecrews; Payload Integration Plan; Space Shuttle Main Engine

19980006620 NASA Johnson Space Center, Houston, TX USA
STS-86 Day 09 Highlights
Oct. 03, 1997; In English; 18 min. playing time, in color, with sound
Report No(s): NASA/TM-97-205919; BRF-1411I; NONP-NASA-VT-1997077160; No Copyright; Avail: CASI: C01, DVD

On this ninth day of the STS-86 mission, the flight crew, Cmdr. James D. Wetherbee, Jr., Pilot Michael J. Bloomfield, Mission Specialists Scott E. Parazynski, Jean-Loup Chretien, Vladmir G. Titov, Wendy B. Lawrence and Mike Foale are seen undocking from the Mir. There are various external views of the two vehicles as they fly over southeast Russia just north of Mongolia.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Space Shuttle Main Engine; Space Shuttle Missions; Space Shuttle Orbiters; Space Shuttles

19980006621 NASA Johnson Space Center, Houston, TX USA
STS-86 Day 06 Highlights
Sep. 30, 1997; In English; 23 min. playing time, in color, with sound
Report No(s): NASA/TM-97-205915; BRF-1411F; NONP-NASA-VT-1997077156; No Copyright; Avail: CASI: C01, DVD

On this sixth day of the STS-86 mission, the flight crew, Cmdr. James D. Wetherbee, Jr., Pilot Michael J. Bloomfield, Mission Specialists Scott E. Parazynski, Jean-Loup Chretien, Vladmir G. Titov, Wendy B. Lawrence and Mike Foale are seen discussing their mission objectives in an interview with CNN, PBS and the Russian media.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Payload Delivery (STS); Space Shuttle Orbiters; Space Shuttle Payloads; Space Shuttles

19980009787 NASA Johnson Space Center, Houston, TX USA
STS-87 Day 02 Highlights
Nov. 29, 1997; In English; 11 min. 11 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-113441; BRF-1412B; NONP-NASA-VT-1997125962; No Copyright; Avail: CASI: C01, DVD

On this second day of the STS-87 mission, the flight crew, Cmdr. Kevin R. Kregel, Pilot Steven W. Lindsey, Mission Specialists Winston E. Scott, Kalpana Chawla, and Takao Doi, and Payload Specialist Leonid K. Kadenyuk are seen conducting experiments involving the effect of weightlessness on materials and fluids. They also work with an experiment to study Earth's protective ozone layers.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Space Shuttle Payloads; Space Shuttles; Space Shuttle Missions; Space Shuttle Orbiters; Weightlessness

19980009788 NASA Johnson Space Center, Houston, TX USA
STS-87 Day 03 Highlights
Nov. 21, 1997; In English; 12 min. 22 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-113442; BRF-1412C; NONP-NASA-VT-1997125963; No Copyright; Avail: CASI: C01, DVD

On this third day of the STS-87 mission, the flight crew, Cmdr. Kevin R. Kregel, Pilot Steven W. Lindsey, Mission Specialists Winston E. Scott, Kalpana Chawla, and Takao Doi, and Payload Specialist Leonid K. Kadenyuk deploy the Spartan satellite with the shuttle's robot arm.
CASI
Space Transportation System; Space Transportation System Flights; Orbital Servicing; Payload Assist Module; Remote Manipulator System; Space Shuttle Main Engine; Space Shuttle Orbiters; Space Shuttle Missions

19980009789 NASA Johnson Space Center, Houston, TX USA
STS-87 Day 05 Highlights
Nov. 23, 1997; In English; 12 min. 35 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-113444; BRF-1412E; NONP-NASA-VT-1997125965; No Copyright; Avail: CASI: C01, DVD

On this fifth day of the STS-87 mission, the flight crew, Cmdr. Kevin R. Kregel, Pilot Steven W. Lindsey, Mission Specialists Winston E. Scott, Kalpana Chawla, and Takao Doi, and Payload Specialist Leonid K. Kadenyuk continue experimental work aboard Columbia. Leonid Kadenyuk focuses on studies of plant growth in weightlessness.
CASI
Space Transportation System; Space Transportation System Flights; Space Shuttle Main Engine; Space Shuttle Missions; Space Shuttle Orbiters; Space Shuttle Payloads

19980009790 NASA Johnson Space Center, Houston, TX USA
STS-87 Day 08 Highlights
Nov. 26, 1997; In English; 14 min. 12 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-113447; BRF-1412H; NONP-NASA-VT-1997125968; No Copyright; Avail: CASI: C01, DVD

On this eigth day of the STS-87 mission, the flight crew, Cmdr. Kevin R. Kregel, Pilot Steven W. Lindsey, Mission Specialists Winston E. Scott, Kalpana Chawla, and Takao Doi, and Payload Specialist Leonid K. Kadenyuk take time out from their duties to be interviewed by CNN. As they reach the one week mark in their 16-day flight, the STS-87 crew shift the focus

of their efforts towards the variety of science experiments flying on this mission.
CASI
Space Transportation System; Space Transportation System Flights; Payload Delivery (STS); Payload Integration Plan; Space Shuttles; Space Shuttle Payloads; Space Shuttle Orbiters; Space Shuttle Missions

19980009826 NASA Johnson Space Center, Houston, TX USA
STS-87 Day 04 Highlights
Nov. 22, 1997; In English; 15 min. 11 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-113443; BRF-1412D; NONP-NASA-VT-1997125964; No Copyright; Avail: CASI: C01, DVD

On this forth day of the STS-87 mission, the flight crew, Cmdr. Kevin R. Kregel, Pilot Steven W. Lindsey, Mission Specialists Winston E. Scott, Kalpana Chawla, and Takao Doi, and Payload Specialist Leonid K. Kadenyuk check out the spacesuits for the EVA planned for later during the mission. Mission Control developed plans that may allow Scott and Doi to recapture the Spartan satellite by hand during that EVA.
CASI
Extravehicular Activity; Space Transportation System; Space Transportation System Flights; Space Shuttle Main Engine; Space Shuttle Missions; Space Shuttle Orbiters

19980009827 NASA Johnson Space Center, Houston, TX USA
STS-87 Day 15 Highlights
Dec. 03, 1997; In English; 14 min. 3 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-113439; BRF-1412P; NONP-NASA-VT-1997125960; No Copyright; Avail: CASI: C01, DVD

On this fifteenth day of the STS-87 mission, the flight crew, Cmdr. Kevin R. Kregel, Pilot Steven W. Lindsey, Mission Specialists Winston E. Scott, Kalpana Chawla, and Takao Doi, and Payload Specialist Leonid K. Kadenyuk spend a good part of their day checking out the important space craft systems that are needed to support reentry.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Space Shuttles

19980009830 NASA Johnson Space Center, Houston, TX USA
STS-86 Mission Highlights Resources Tape
Nov. 21, 1997; In English; 1 hr. 56 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-206104; JSC-1686; NONP-NASA-VT-1997093224; No Copyright; Avail: CASI: C01, DVD

The flight crew of the STS-86 mission, Cmdr. James D. Wetherbee, Jr., Pilot Michael J. Bloomfield, Mission Specialists Scott E. Parazynski, Jean-Loup Chretien, Vladmir G. Titov, Wendy B. Lawrence and Mike Foale present an overview of their mission, whose primary objective is the rendezvous and space docking with the Russian Space Station Mir. Video film footage includes: prelaunch and launch activities; shuttle launch; in-orbit rendezvous; docking between Mir and the orbiter; general crew activities; transfer of supplies; undocking maneuvers and a Mir fly-around; and the reentry and landing of the orbiter.
CASI
Space Transportation System; Spacecraft Docking; Spacecraft Launching; Spacecrews; Supplying; Mir Space Station

19980009908 NASA Johnson Space Center, Houston, TX USA
STS-87 Day 01 Highlights
Nov. 18, 1997; In English; 15 min. 25 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-113440; BRF-1412A; NONP-NASA-VT-1997125961; No Copyright; Avail: CASI: C01, DVD

On this first day of the STS-87 mission, the flight crew, Cmdr. Kevin R. Kregel, Pilot Steven W. Lindsey, Mission Specialists Winston E. Scott, Kalpana Chawla, and Takao Doi, and Payload Specialist Leonid K. Kadenyuk can be seen preforming pre-launch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew is seen being readied in the white room' for their mission. After the closing of the hatch and arm retraction, launch activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters.
CASI
Space Shuttle Boosters; Space Transportation System; Space Transportation System Flights; Spacecrews; Countdown; Payload Delivery (STS); Payload Retrieval (STS); Space Shuttle Main Engine; Space Shuttle Orbiters; Space Shuttle Payloads

19980009909 NASA Johnson Space Center, Houston, TX USA
STS-87 Day 14 Highlights
Dec. 02, 1997; In English; 15 min. 50 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-113438; BRF-1412N; NONP-NASA-VT-1997125959; No Copyright; Avail: CASI: C01, DVD

On this fourteenth day of the STS-87 mission, the flight crew, Cmdr. Kevin R. Kregel, Pilot Steven W. Lindsey, Mission Specialists Winston E. Scott, Kalpana Chawla, and Takao Doi, and Payload Specialist Leonid K. Kadenyuk focus on completion of hands-on sample processing in the microgravity glovebox facility. They also prepare the spacesuits and tools that will be used for the EVA by Scott and Doi. The crew take time out from their schedule to discuss the mission with reporters from the U.S., Japan and the Ukraine during the traditional in-flight news conference.
CASI
Extravehicular Activity; Microgravity; Space Transportation System; Space Transportation System Flights; Spacecrews; Ukraine

19980009910 NASA Johnson Space Center, Houston, TX USA
STS-87 Day 12 Highlights
Nov. 30, 1997; In English; 13 min. 47 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-113436; BRF-1412L; NONP-NASA-VT-1997125957; No Copyright; Avail: CASI: C01, DVD

On this twelth day of the STS-87 mission, the flight crew, Cmdr. Kevin R. Kregel, Pilot Steven W. Lindsey, Mission Specialists Winston E. Scott, Kalpana Chawla, and Takao Doi, and Payload Specialist Leonid K. Kadenyuk continue to look at how plant growth and composite materials are affected by microgravity. The astronauts use the globebox facility to process samples for the Particle Engulfment and Pushing by a Solid/Liquid Interface experiment.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Vegetation Growth

19980009911 NASA Johnson Space Center, Houston, TX USA
STS-87 Day 11 Highlights
Nov. 29, 1997; In English; 9 min. 31 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-113435; BRF-1412K; NONP-NASA-VT-1997125956; No Copyright; Avail: CASI: C01, DVD

On this eleventh first day of the STS-87 mission, the flight crew, Cmdr. Kevin R. Kregel, Pilot Steven W. Lindsey, Mission Specialists Winston E. Scott, Kalpana Chawla, and Takao Doi, and Payload Specialist Leonid K. Kadenyuk continue to look at how plant growth and composite materials are affected by microgravity. The astronauts will use the Middeck Globebox Facility to process samples for the Particle Engulfment and Pushing by a Solid/Liquid Interface experiment. PEP is studying the formation of composite materials, attempting to accurately map the roles of gravity-induced convection and sedimentation in the process by removing the gravity from the equation.
CASI
Microgravity; Space Transportation System; Space Transportation System Flights; Spacecrews; Vegetation Growth

19980009912 NASA Johnson Space Center, Houston, TX USA
STS-87 Day 10 Highlights
Nov. 28, 1997; In English; 15 min. 5 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-113434; BRF-1412J; NONP-NASA-VT-1997125955; No Copyright; Avail: CASI: C01, DVD

On this tenth day of the STS-87 mission, the flight crew, Cmdr. Kevin R. Kregel, Pilot Steven W. Lindsey, Mission Specialists Winston E. Scott, Kalpana Chawla, and Takao Doi, and Payload Specialist Leonid K. Kadenyuk receive a call from Ukrainian President Leonid Kuchma and answer questions from media in Kiev. The conversations focus on Kadenyuk's first flight into space and the work ongoing to support the mission objectives.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Space Shuttle Main Engine; Space Shuttles

19980014807 NASA Johnson Space Center, Houston, TX USA
STS-87 Day 09 Highlights
Nov. 27, 1997; In English; 14 min. 47 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-113433; BRF-1412I; NONP-NASA-VT-1997125954; No Copyright; Avail: CASI: C01, DVD

On this ninth day of the STS-87 mission, the flight crew, Cmdr. Kevin R. Kregel, Pilot Steven W. Lindsey, Mission Specialists Winston E. Scott, Kalpana Chawla, and Takao Doi, and Payload Specialist Leonid K. Kadenyuk continue work with the microgravity science investigations in a special glovebox facility on the middeck. The autonomous operations with the mission's prime payload continue in the payload bay of Columbia with no interaction by the crew required.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Space Shuttle Orbiters; Space Shuttle Missions

19980015095 NASA Johnson Space Center, Houston, TX USA
STS-87 Day 07 Highlights
Nov. 25, 1997; In English; 8 min. 38 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-113446; BRF-1412G; NONP-NASA-VT-1997125967; No Copyright; Avail: CASI: C01, DVD

On this seventh day of the STS-87 mission, the flight crew, Cmdr. Kevin R. Kregel, Pilot Steven W. Lindsey, Mission Specialists Winston E. Scott, Kalpana Chawla, and Takao Doi, and Payload Specialist Leonid K. Kadenyuk turn their attention to a variety of experiments inside the Shuttle's cabin. These experiments include the processing of several samples of materials in the glovebox facility in Columbia's middeck; the experiment called PEP, which involves heating samples and then recording the mixture as it resolidifies; and the study of plant growth in space.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Space Flight; Space Shuttles

19980015096 NASA Johnson Space Center, Houston, TX USA
STS-87 Day 06 Highlights
Nov. 24, 1997; In English; 18 min. playing time, in color, with sound
Report No(s): NASA/TM-97-113445; BRF-1412F; NONP-NASA-VT-1997125966; No Copyright; Avail: CASI: C01, DVD

On this sixth day of the STS-87 mission, the flight crew, Cmdr. Kevin R. Kregel, Pilot Steven W. Lindsey, Mission Specialists Winston E. Scott, Kalpana Chawla, and Takao Doi, and Payload Specialist Leonid K. Kadenyuk begin the final preparations for the EVA by Scott and Doi. They are to manually capture the SPARTAN Satellite. After this is accomplished they are to test tools and techniques that will be required for the assembly of the International Space Station.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Crew Procedures (Inflight); Space Shuttles; Space Flight

19980015097 NASA Johnson Space Center, Houston, TX USA
STS-87 Day 13 Highlights
Dec. 01, 1997; In English; 15 min. 4 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-113437; BRF-1412M; NONP-NASA-VT-1997125958; No Copyright; Avail: CASI: C01, DVD

On this thirteenth day of the STS-87 mission, the flight crew, Cmdr. Kevin R. Kregel, Pilot Steven W. Lindsey, Mission Specialists Winston E. Scott, Kalpana Chawla, and Takao Doi, and Payload Specialist Leonid K. Kadenyuk continue work in the mini laboratory called the microgravity glovebox facility. This facility allows crew members to interactively work with two different experiments today studying the formation of composite materials in an attempt to accurately map the roles of gravity-induced convection and sedimentation on the samples.
CASI
Space Transportation System; Space Transportation System Flights; Spacecrews; Microgravity; Crew Procedures (Inflight)

19980032333 NASA Johnson Space Center, Houston, TX USA
STS-89 Day 01 Highlights
Jan. 23, 1998; In English; 15 min. 7 sec. in playing time, in color, with sound
Report No(s): NASA/TM-98-207507; BRF-1413A; NONP-NASA-VT-1998074671; No Copyright; Avail: CASI: C01, DVD

On this first day of the STS-89 mission, the flight crew, Cmdr. Terrence W. Wilcutt, Pilot Frank Edwards, and Mission Specialists Michael P. Anderson, James F. Reilly, Bonnie J. Dunbar, Salizhan Shakirovich Sharipov, David A. Wolf and Andrew S.W. Thomas, can be seen performing pre-launch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also, included are various panoramic views of the shuttle on the pad. The crew is readied in

the ‘white room’ for their mission. After the closing of the hatch and arm retraction, launch activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters.
CASI
Space Transportation System Flights; Spacecrews; Launching; Booster Rocket Engines; Space Flight; Space Missions; Space Shuttles

19980032959 NASA Johnson Space Center, Houston, TX USA
STS-89 Day 09 Highlights
Jan. 30, 1998; In English; 13 min. 31 sec. playing time, in color, with sound
Report No(s): NASA/TM-98-207506; BRF-1413I; NONP-NASA-VT-1998074670; No Copyright; Avail: CASI: C01, DVD

On this ninth day of the STS-89 mission, the flight crew, Cmdr. Terrence W. Wilcutt, Pilot Frank Edwards, and Mission Specialists Michael P. Anderson, James F. Reilly, Bonnie J. Dunbar, Salizhan Shakirovich Sharipov, David A. Wolf and Andrew S.W. Thomas, prepare for the reentry phase of their mission. Bonnie Dunbar than gives a tour of the space shuttle.
CASI
Space Shuttle Missions; Space Transportation System Flights; Space Transportation System; Spacecrews; Microgravity

19980032960 NASA Johnson Space Center, Houston, TX USA
STS-89 Day 03 Highlights
Jan. 24, 1998; In English; 19 min. 5 sec. playing time, in color, with sound
Report No(s): NASA/TM-98-207509; BRF-1413C; NONP-NASA-VT-1998074673; No Copyright; Avail: CASI: C01, DVD

On this third day of the STS-89 mission, the flight crew, Cmdr. Terrence W. Wilcutt, Pilot Frank Edwards, and Mission Specialists Michael P. Anderson, James F. Reilly, Bonnie J. Dunbar, Salizhan Shakirovich Sharipov, David A. Wolf and Andrew S.W. Thomas, can be seen performing a flawless docking with the Mir. The linkup occurred while the two spaceships flew over southeastern Russia, west of Kazakhstan. After the docking the two crews open the entry hatch and great each other.
CASI
Space Transportation System Flights; Spacecraft Docking; Spacecrews; Space Rendezvous; Mir Space Station; Crew Experiment Stations

19980033342 NASA Johnson Space Center, Houston, TX USA
STS-85 Mission Highlights Resources Tape
Nov. 12, 1997; In English; 57 min. 13 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-206067; JSC-1666; NONP-NASA-VT-1997087432; No Copyright; Avail: CASI: C01, DVD

The flight crew of STS-85, Cmdr. Curtis L. Brown, Jr., Pilot Kent V. Rominger, Payload Cmdr. N. Jan Davis (Ph.D.), Mission Specialists Robert L. Curbeam, Jr. and Stephen K. Robinson (Ph.D.), and Payload Specialist Bjarni V. Tryggvason, present an overview of their mission. During the pre-launch activities the shuttle is shown being mated to the external tank and Solid Rocket Boosters (SRBs). Also included: is the arrival of the crew at the Kennedy Space Center (KSC), their suit-up, the crew being transported to the pad, being strapped in, and launch control activities. The launch includes the count down, main engine start-up, SRB start-up, the launch, the roll maneuver and SRB separation. Once the crew is in orbit, they deploy the CRISTA-SPAS payload and conduct various micro-gravity experiments. In the last part of the video the crew is seen preparing for the landing phase of the mission.
CASI
Space Shuttle Missions; Space Shuttle Orbiters; Space Transportation System Flights; Solid Propellant Rocket Engines; Payload Retrieval (STS); Payload Delivery (STS)

19980033343 NASA Johnson Space Center, Houston, TX USA
STS-85 Postflight Presentation
Sep. 20, 1997; In English; 52 min. 30 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-206204; JSC-1665; NONP-NASA-VT-1997058833; No Copyright; Avail: CASI: C01, DVD

The flight crew of STS-85, Cmdr. Curtis L. Brown, Jr., Pilot Kent V. Rominger, Payload Cmdr. N. Jan Davis (Ph.D.), Mission Specialists Robert L. Curbeam, Jr. and Stephen K. Robinson (Ph.D.), and Payload Specialist Bjarni V. Tryggvason, present an overview of their mission. Events shown include pre-launch preparations, launch activities, on orbit activation of

various experiments, and the return and landing of the shuttle at Kennedy Space Center (KSC). In the second part of the presentation the astronauts describe the still pictures that were taken during the mission.
CASI
Space Shuttle Missions; Space Shuttle Orbiters; Space Transportation System; Space Shuttle Payloads; Space Transportation System Flights

19980033933 NASA Johnson Space Center, Houston, TX USA
STS-89 Day 08 Highlights
Jan. 29, 1998; In English; 12 min. 48 sec. playing time, in color, with sound
Report No(s): NASA/TM-98-207505; BRF-1413H; NONP-NASA-VT-1998074669; No Copyright; Avail: CASI: C01, DVD

On this eighth day of the STS-89 mission, the flight crew, Cmdr. Terrence W. Wilcutt, Pilot Frank Edwards, and Mission Specialists Michael P. Anderson, James F. Reilly, Bonnie J. Dunbar, Salizhan Shakirovich Sharipov, David A. Wolf and Andrew S.W. Thomas, prepare to conclude their joint mission with the crew of the Mir. Endeavour separates from the Russian Space Station with a gentle push from springs in the docking mechanism attaching it to the Space Station. Following a flyaround of the station to gather additional photography of the outpost, Pilot Joe Edwards conducts a final separation maneuver to allow Endeavour to drift away from the Mir.
CASI
Space Transportation System Flights; Spacecraft Docking; Spacecrews; Space Shuttle Missions; Mir Space Station; Earth Observations (From Space)

19980034852 NASA Johnson Space Center, Houston, TX USA
STS-89 Day 02 Highlights
Jan. 23, 1998; In English; 14 min. 5 sec. playing time, in color, with sound
Report No(s): NASA/TM-98-207508; BRF-1413B; NONP-NASA-VT-1998074672; No Copyright; Avail: CASI: C01, DVD

On this second day of the STS-89 mission, the flight crew, Cmdr. Terrence W. Wilcutt, Pilot Frank Edwards, and Mission Specialists Michael P. Anderson, James F. Reilly, Bonnie J. Dunbar, Salizhan Shakirovich Sharipov, David A. Wolf and Andrew S.W. Thomas, take time from their schedule to discuss with radio station KNX of Los Angeles the STS-89 mission and Thomas' transfer to the Mir Space Station.
CASI
Space Transportation System Flights; Mir Space Station; Space Flight; Spacecrews; Orbital Maneuvers; Orbital Rendezvous

19980073213 NASA Johnson Space Center, Houston, TX USA
STS-89 Day 04 Highlights
Jan. 25, 1998; In English; 19 min. 16 sec. playing time, in color, with sound
Report No(s): NASA/TM-98-207510; BRF-1413D; NONP-NASA-VT-1998074674; No Copyright; Avail: CASI: C01, DVD

On this forth day of the STS-89 mission, the flight crew, Cmdr. Terrence W. Wilcutt, Pilot Frank Edwards, and Mission Specialists Michael P. Anderson, James F. Reilly, Bonnie J. Dunbar, Salizhan Shakirovich Sharipov, David A. Wolf and Andrew S.W. Thomas, are interviewed by an unnamed news agency. Most of the questions are directed at Wolf and his experiences on Mir.
CASI
Space Transportation System Flights; Space Transportation System; Mir Space Station; Space Flight; Space Mechanics; Space Missions; Space Rendezvous; Orbital Mechanics; Orbital Maneuvers

19980073409 NASA Johnson Space Center, Houston, TX USA
STS-89 Day 05 Highlights
Jan. 26, 1998; In English; 14 min. 24 sec. playing time, in color, with sound
Report No(s): NASA/TM-98-207502; BRF-1413E; NONP-NASA-VT-1998074666; No Copyright; Avail: CASI: C01, DVD

On this fifth day of the STS-89 mission, the flight crew, Cmdr. Terrence W. Wilcutt, Pilot Frank Edwards, and Mission Specialists Michael P. Anderson, James F. Reilly, Bonnie J. Dunbar, Salizhan Shakirovich Sharipov, David A. Wolf and

Andrew S.W. Thomas, are interviewed by an unnamed news agency. The main focus of the interview was on international cooperation in outer space.
CASI
Space Transportation System Flights; International Cooperation; Space Shuttles; Payload Retrieval (STS); Payload Transfer; Orbital Rendezvous; Crew Procedures (Inflight); Mir Space Station; Spacecraft Docking

19980076018 NASA Johnson Space Center, Houston, TX USA
STS-89 Day 06 Highlights
Jan. 27, 1998; In English; 13 min. 49 sec. playing time, in color, with sound
Report No(s): NASA/TM-98-207503; BRF-1413F; NONP-NASA-VT-1998074667; No Copyright; Avail: CASI: C01, DVD

On this sixth day of the STS-89 mission, the flight crew, Cmdr. Terrence W. Wilcutt, Pilot Frank Edwards, and Mission Specialists Michael P. Anderson, James F. Reilly, Bonnie J. Dunbar, Salizhan Shakirovich Sharipov, David A. Wolf and Andrew S.W. Thomas, are interviewed by John Holorman of Cable News Network (CNN) and Russian news media. The crew discuss the progress of the mission and activities that lie ahead for Mir crew member Andy Thomas.
CASI
Space Transportation System Flights; Mir Space Station; Spacecraft Docking; Space Stations; Space Rendezvous; Orbital Rendezvous; News Media; Spacecrews

19980111106 NASA Johnson Space Center, Houston, TX USA
STS-89 Day 07 Highlights
Jan. 28, 1998; In English; 15 min. 13 sec. playing time, in color, with sound
Report No(s): NASA/TM-98-207504; BRF-1413G; NONP-NASA-VT-1998074668; No Copyright; Avail: CASI: C01, DVD

On this seventh day of the STS-89 mission, the flight crew, Cmdr. Terrence W. Wilcutt, Pilot Frank Edwards, and Mission Specialists Michael P. Anderson, James F. Reilly, Bonnie J. Dunbar, Salizhan Shakirovich Sharipov, David A. Wolf and Andrew S.W. Thomas are interviewed by an unnamed news agency.
CASI
Space Transportation System Flights; Space Transportation System; Space Shuttles; Payload Delivery (STS); Payload Retrieval (STS); Space Shuttle Missions; Space Shuttle Orbiters

19980137397 NASA Johnson Space Center, Houston, TX USA
STS-89 Post Flight Presentation
Mar. 11, 1998; In English; 20 min. 37 sec. playing time, in color, with sound
Report No(s): NASA/TM-98-207432; JSC-1710; NONP-NASA-VT-1998070594; No Copyright; Avail: CASI: C01, DVD

The flight crew of the STS-89 Space Shuttle Orbiter Endeavour, Cmdr. Terrence W. Wilcutt, Pilot Frank Edwards, and Mission Specialists Michael P. Anderson, James F. Reilly, Bonnie J. Dunbar, Salizhan Shakirovich Sharipov, David A. Wolf, and Andrew S.W. Thomas present an overview of their mission. It’s whose primary objective was the rendezvous and space docking with the Mir Space Station. Video film footage includes prelaunch and launch activities; shuttle launch; in-orbit docking between Mir and Endeavour; general crew activities; transfer of supplies, equipment, and microgravity experiments to Mir; undocking maneuvers and Mir fly around; pre-return checkout of flight systems; and reentry and landing of the orbiter.
CASI
Endeavour (Orbiter); Mir Space Station; Orbital Rendezvous; Spacecraft Docking; Spacecraft Launching; Spacecrews; Orbital Servicing; Payload Delivery (STS); Payload Retrieval (STS)

19980137398 NASA Johnson Space Center, Houston, TX USA
STS-89 Mission Highlights Resource Tape
Mar. 11, 1998; In English; 1 hour 25 sec. playing time, in color, with sound
Report No(s): NASA/TM-98-207694; JSC-1711; NONP-NASA-VT-1998082123; No Copyright; Avail: CASI: C01, DVD

The flight crew of the STS-89 Space Shuttle Orbiter Endeavour, Cmdr. Terrence W. Wilcutt, Pilot Frank Edwards, and Mission Specialists Michael P. Anderson, James F. Reilly, Bonnie J. Dunbar, Salizhan Shakirovich Sharipov, David A. Wolf, and Andrew S.W. Thomas, present an overview of their mission. Images include prelaunch activities such as eating the traditional breakfast, crew suit-up, and the ride out to the launch pad. Also included are various panoramic views of the shuttle on the pad. The crew is readied in the white room’ for their mission. After the closing of the hatch and arm retraction, launch

activities are shown including countdown, engine ignition, launch, and the separation of the Solid Rocket Boosters (SRBs). Once in orbit, there are various views of the Mir Space Station as the shuttle begins its approach and docks. After the docking the two crews open the entry hatch and greet each other. The astronauts and cosmonauts transfer supplies from the shuttle to Mir. The astronauts prepare for the reentry phase of their mission. Endeavour separates from the Russian Space Station with a gentle push from springs in the docking mechanism that attaches it to the Space Station. The final view shows the crews' preparations for reentry and landing.
CASI
Space Transportation System; Endeavour (Orbiter); Mir Space Station; Space Shuttle Orbiters; Spacecraft Docking; Spacecrews

19990041930 NASA Johnson Space Center, Houston, TX USA
Historical Footage of John Glenn Friendship 7
Feb. 20, 1962; In English; 16 min. playing time, in color, with sound
Report No(s): NONP-NASA-VT-1999064003; No Copyright; Avail: CASI: C01, DVD

The Friendship mission launch on the 20th day of February marked the first time that an American attempts to orbit the Earth. Historical footage of John Glenn's suit up, ride out to the launch pad, countdown, liftoff, booster engine cutoff, and separation of the booster engine escape tower is shown. Views of the Earth, Glenn's manual control of the electrical fly-by wire system, and the recovery of the landing vehicle from the ocean are presented.
CASI
Mercury MA-6 Flight; Friendship 7; Launch Vehicles; Earth Orbits

19990116995 NASA Kennedy Space Center, Cocoa Beach, FL USA
STS-51C Launch and Landing
Jan. 27, 1985; In English; 50 min. playing time, in color, with sound
Report No(s): NONP-NASA-VT-1999207923; No Copyright; Avail: CASI: C01, DVD

This NASA KSC video release is comprised of live shots covering the day launch and landing of STS-51C/Discovery. The flight crew members were: Thomas K. Mattingly II, Commander; Loren J. Shriver, Pilot; Ellison S. Onizuka, Mission Specialist; James F. Buchli, Mission Specialist; and Gary E. Payton, Payload Specialist. The launch video is presented from several different vantage points and covers the countdown from the launch pad, main engine ignition, liftoff, and solid rocket booster separation. The landing footage contains final descent and approach, landing gear deployment, and touchdown, which was also captured from different locations including a helicopter. STS-51C carried the DoD 85-1 payload and was the first mission dedicated to the Department of Defense.
CASI
Space Shuttle Mission 51-C; Discovery (Orbiter); Spacecraft Landing; Spacecraft Launching

19990117118 NASA Johnson Space Center, Houston, TX USA
STS 41-G: Mission Highlights
Oct. 31, 1984; In English; 50 min. playing time, in color, with sound
Report No(s): NONP-NASA-VT-1999207905; No Copyright; Avail: CASI: C01, DVD

The crew (Commander Robert L. Crippen, Pilot Jon A. McBride, Mission Specialists Kathryn D. Sullivan, Sally K. Ride, and David C. Leestma, Payload Specialists Marc Garneau, and Paul D. Scully-Power) prepares for the 13th Shuttle Mission. Earth Radiation Budget Satellite (ERBS) is deployed less than nine hours into flight. Components of the Orbital Refueling System are connected, demonstrating that it is possible to refuel satellites in orbit.
CASI
Refueling; Space Transportation System Flights; Space Missions; Earth Radiation Budget

20000000253 NASA Kennedy Space Center, Cocoa Beach, FL USA
STS-51B Launch and Landing
May 06, 1985; In English; 20 min. 25 sec. playing time, in color, with sound
Report No(s): NONP-NASA-VT-1999207907; No Copyright; Avail: CASI: C01, DVD

Live footage of various isolated launch views is seen. Views of the Space Shuttle Challenger are shown from different camera sites such as the VAB (Vehicle Assembly Building) Roof, Pad Perimeter, Helicopter, Convoy, and Midfield. Also

shown from different cameras is the re-entry and landing of the shuttle at Kennedy Space Center (KSC). Footage also includes the ground recovery crew as they travel to the spacecraft. Challengers crew, Commander Robert F. Overmyer, Pilot Frederick D. Gregory, Mission Specialists Don L. Lind, Norman E. Thagard, and William E. Thornton, and Payload Specialists Lodewijk van den Berg, and Taylor G. Wang are also seen leaving the craft.
CASI
Challenger (Orbiter); Space Shuttle Mission 51-B; Space Transportation System; Spacecraft Launching

20000004257 NASA Kennedy Space Center, Cocoa Beach, FL USA
STS-51G Mission Highlights Resource Tape
Jun. 24, 1985; In English; 40 min. playing time, in color, with sound
Report No(s): NONP-NASA-VT-1999207983; No Copyright; Avail: CASI: C01, DVD

The STS-51G flight crew, Commander Daniel C. Brandenstein, Pilot John O. Creighton, Mission Specialists Shannon W. Lucid, John M. Fabian, and Steven R Nagel, and Payload Specialists Patrick, Baudry, and Sultan Salman Al-Saud are seen performing pre-launch activities such as eating of the traditional breakfast, ride out to the launch pad, and crew suit-up for an early morning launch. Also, included are various panoramic views of Discovery on the pad. The main objective of this mission is to deploy three communication satellites. The satellites being deployed are MORE LOS-A, for Mexico; ARABSAT-A, for the Arab Satellite Communications Organization; and TELSTAR-3D, for AT&T. The crew also retrieve the SPARTAN-1 satellite. Scenes include the crew in the mess deck via video link with Mission Control Center in celebration of the 100th American in space. Al-Saud also spoke with his father in Saudi Arabia via video link. Views of certain experiments are also seen. Al-Saud is seen conducting the postural experiment, and Baudry is seen conducting the equilibrium experiments. Panoramic views of the Hawaiian Island Archipelago, and Wadi Habawnah, Saudi Arabia are also visible from the shuttle. Live footage ends with the re-entry of the vehicle into the Earth's Atmosphere, an early morning touchdown at Edwards Air Force Base and crew departure from the craft.
CASI
Space Transportation System; Space Transportation System Flights; Discovery (Orbiter); Space Shuttle Mission 51-G; Saudi Arabian Space Program

20000032744 NASA Kennedy Space Center, Cocoa Beach, FL USA
STS-34: JPL RTG Safety Tests
Jul. 20, 1989; 7 pp.; In English; 11 min. 31 sec. playing time, in color, no sound
Report No(s): NONP-NASA-VT-2000043346; No Copyright; Avail: CASI: C01, DVD

The primary objective of STS-34 was to launch Galileo on its trip to Jupiter. The Galileo spacecraft contains two Radioisotope Thermoelectric Generators (RTG), which contains plutonium. This video shows and the accompanying material explains the tests that the RTG containment vessel has been subjected to, and the results of the tests. The video shows the trajectory of the Galileo spacecraft, a cutaway view of an RTG, the Plutonium-238 fuel capsule, and seven of the tests on the RTG.
CASI
Fuel Capsules; Galileo Spacecraft; Radioisotope Batteries; Thermoelectric Generators; Impact Tests; Performance Tests; Reliability

20000033440 NASA Dryden Flight Research Center, Edwards, CA USA
X-38 Phase 3 Drops V-132 FF#3
Mar. 30, 2000; In English; 43 min. playing time, in color, without sound
Report No(s): NONP-NASA-VT-2000043892; No Copyright; Avail: CASI: C01, DVD

Live footage shows the drop of the X-38 vehicle. Also shown are parachute deployments from various cameras.
CASI
X-38 Crew Return Vehicle; Research Vehicles; Research and Development

20000080452 NASA Kennedy Space Center, Cocoa Beach, FL USA
Orbiter Umbilical Hinge Door Problem
Feb. 19, 1991; In English; 4 min. 14 sec. playing time, in color, with sound
Report No(s): NONP-NASA-VT-2000113527; No Copyright; Avail: CASI: C01, DVD

During processing work on the orbiter Discovery at Pad A, significant cracks were found on all four lug hinges on the two external tank umbilical door drive mechanisms. NASA managers opted to roll back the vehicle to the Vehicle Assembly Building (VAB) on March 7, and then to the Orbiter Processing Facility (OPF) for repair. Hinges were replaced with units taken from orbiter COLUMBIA, and reinforced. Discovery returned to the pad on April 1. Shown are the cracked orbiter umbilical door hinges.
CASI
Spacecraft Maintenance; Prelaunch Problems; External Tanks; Cracks; Doors; Hinges; Lugs

20000118264 NASA Kennedy Space Center, Cocoa Beach, FL USA
STS-38 Rollback from Pad A to VAB
Aug. 09, 1990; In English; 13 min. 46 sec. playing time, in color, with sound (no narration)
Report No(s): NONP-NASA-VT-2000113523; No Copyright; Avail: CASI: C01, DVD
Footage is shown of the slow rollback of Atlantis, travelling from pad A to the Vehicle Assembly Building (VAB).
CASI
Atlantis (Orbiter); Space Shuttles

20070031008 NASA Langley Research Center, Hampton, VA USA
EVA Assembly of Large Space Structure Neutral Buoyancy, Zero-Gravity Simulation: NASA-LaRC Nestable Columns and Joints
April 1979; In English; See also 19810017623; See also NASA-TP-1872; Silent, Color, 21.5min.; DVD produced from the original 16mm recording
Report No(s): L-1275; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)
The film depicts an extravehicular activity (EVA) that involved the assembly of six ‘space-weight’ columns into a regular tetrahedral cell by a team of two ‘space’-suited test subjects. This cell represents the fundamental ‘element’ of a tetrahedral truss structure. The tests were conducted under simulated zero-gravity conditions, achieved by neutral buoyancy in water. The cell was assembled on an ‘outrigger’ assembly aid off the side of a mockup of the Shuttle Orbiter cargo bay. Both manual and simulated remote manipulator system (RMS) modes were evaluated. The simulated RMS was used only to transfer stowed hardware from the cargo bay to the work sites. Articulation limits of the pressure suit and zero gravity could be accommodated by work stations with foot restraints. The results of this study have confirmed that astronaut EVA assembly of large, erectable space structur is well within man’s capabilities.
Author (revised)
Extravehicular Activity; Large Space Structures; Trusses; Neutral Buoyancy Simulation; Space Shuttle Orbiters; Space Suits; Astronaut Performance; Space Erectable Structures

20090004795 NASA Johnson Space Center, Houston, TX, USA
Apollo Lesson Sampler: Apollo 13 Lessons Learned
Interbartolo, Michael A.; May 2008; In English; No Copyright; Avail: CASI: C01, CD-ROM
This CD-ROM contains a two-part case study of the Apollo 13 accident. The first lesson contains an overview of the electrical system hardware on the Apollo spacecraft, providing a context for the details of the oxygen tank explosion, and the failure chain reconstruction that led to the conditions present at the time of the accident. Given this background, the lesson then covers the tank explosion and immediate damage to the spacecraft, and the immediate response of Mission Control to what they saw. Part 2 of the lesson picks up shortly after the explosion of the oxygen tank on Apollo 13, and discusses how Mission Control gained insight to and understanding of the damage in the aftermath. Impacts to various spacecraft systems are presented, along with Mission Control’s reactions and plans for in-flight recovery leading to a successful entry. Finally, post-flight vehicle changes are presented along with the lessons learned.
Derived from text
Apollo Spacecraft; Lessons Learned; Failure Analysis; Accident Investigation

17

SPACE COMMUNICATIONS, SPACECRAFT COMMUNICATIONS, COMMAND AND TRACKING

Includes space systems telemetry; space communications networks; astronavigation and guidance; and spacecraft radio blackout. For related information see also *04 Aircraft Communications and Navigation*; and *32 Communications and Radar*.

20070031014 National Advisory Committee for Aeronautics. Langley Aeronautical Lab., Langley Field, VA USA, Boeing Co., USA

The Lunar Orbiter: A Spacecraft to Advance Lunar Exploration

[1966]; In English; Sound, Color, 300ft., 7.5min.; DVD produced from the original 16mm recording

Report No(s): L-1312; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

The film describes the Lunar Orbiter's mission to photograph landing areas on the Moon. The Orbiter will be launched from Cape Kennedy using an Atlas Agena booster rocket. Once it is boosted in a trajectory toward the Moon, the Orbiter will deploy two-way earth communication antennas and solar panels for electricity. Attitude control jets will position the solar panels toward the sun and a tracker for a fix on its navigational star. The Orbiter will be put in an off-center orbit around the Moon where it will circle from four to six days. Scientists on Earth will study the effects of the Moon's gravitational field on the spacecraft, then the orbit will be lowered to 28 miles above the Moon's surface. Engineers will control the Orbiter manually or by computer to activate two camera lenses. The cameras will capture pictures of 12,000 square miles of lunar surface in 25 and 400 square mile increments. Pictures will be sent back to Earth using solar power to transmit electrical signals. The signals will be received by antennas at Goldstone, CA, and in Australia and Spain. Incoming photographic data will be electronically converted and processed to produce large-scale photographic images. The mission will be directed from the Space Flight Operations Facility in Pasadena, CA by NASA and Boeing engineers. After the photographic mission, the Orbiter will continue to circle the Moon providing information about micrometeoroids and radiation in the vicinity.

Derived from text

Lunar Orbiter; Lunar Photography; Lunar Surface; Lunar Exploration; Flight Operations; Moon

18

SPACECRAFT DESIGN, TESTING AND PERFORMANCE

Includes satellites; space platforms; space stations; spacecraft systems and components such as thermal and environmental controls; and spacecraft control and stability characteristics. For life support systems see *54 Man/System Technology and Life Support*. For related information see also *05 Aircraft Design, Testing and Performance; 39 Structural Mechanics*; and *16 Space Transportation and Safety*.

19940009155 NASA Langley Research Center, Hampton, VA, USA

Scout: The unsung hero of space

Mar 1, 1991; In English; 30 min. playing time, in color and black and white, with sound

Report No(s): NASA-TM-109289; NONP-NASA-VT-93-185304; No Copyright; Avail: CASI: C01, DVD

A history of the Scout program, managed by LaRC for 30 years, is presented.

Author (revised)

Scout Launch Vehicle; Scout Project

19940009161 NASA Johnson Space Center, Houston, TX, USA

STS-32 post-flight press conference

Feb 1, 1990; In English; 19 min. 20 sec. playing time, in color, with sound

Report No(s): JSC-1145; NASA-TM-109294; NONP-NASA-VT-93-185309; No Copyright; Avail: CASI: C01, DVD

Video footage of the post-flight press conference of STS-32 is presented. The footage is narrated by the crew, and it covers the following topics: launch, deployment of Syncom IV-5, retrieval of the Long Duration Exposure Facility, in-orbit activities, and the landing.

Author (revised)

Conferences; Space Transportation System; Space Transportation System Flights

19940009164 NASA Johnson Space Center, Houston, TX, USA
High velocity gas gun
Oct 1, 1988; In English; 3 min. 30 sec. playing time, in color, with sound
Report No(s): JSC-1021; NASA-TM-109296; NONP-NASA-VT-93-185311; No Copyright; Avail: CASI: C01, DVD

A video related to orbital debris research is presented. The video covers the process of loading a High Velocity Gas Gun and firing it into a mounted metal plate. The process is then repeated in slow motion.

Author (revised)

Gas Guns; Hypervelocity Guns; Space Debris

19940010310 NASA Lewis Research Center, Cleveland, OH, USA
NASA images 8
Feb 1, 1988; In English; 28 min. 7 sec. playing time, in color, with sound
Report No(s): LERC-3004; NASA-TM-109416; NONP-NASA-VT-93-190213; No Copyright; Avail: CASI: C01, DVD

How various NASA satellites are used is illustrated. Satellites included are TIROS, ECHO, RELAY, HEAO, ERTS, LANDSAT, and ATS.

CASI

Satellite Communication; Satellite Imagery; Satellite Tracking

19940010754 NASA Marshall Space Flight Center, Huntsville, AL, USA
Long Duration Exposure Facility is coming home
Nov 1, 1989; In English; 2 min. 8 sec. playing time, in color, with sound
Report No(s): MSFC-16005; NASA-TM-109656; NONP-NASA-VT-93-190454; No Copyright; Avail: CASI: C01, DVD

This video describes how the Long Duration Exposure Facility will provide knowledge of the effects of space on various materials over a long period of time.

CASI

Long Duration Exposure Facility; Spaceborne Experiments

19940010794 NASA Goddard Space Flight Center, Greenbelt, MD, USA
Orbiting solar operations
Jul 1, 1988; In English; 10 min. playing time, in color, with sound
Report No(s): GSFC-R-20; NASA-TM-109583; NONP-NASA-VT-93-190381; No Copyright; Avail: CASI: C01, DVD

A short video presentation about the capabilities, accomplishments, and limitations of the Orbiting Solar Operations is presented.

CASI

Solar Activity; Solar Observatories

19940010796 NASA Goddard Space Flight Center, Greenbelt, MD, USA
TDRS video clip
Jan 1, 1989; In English; 57 sec. playing time, in color, with sound
Report No(s): GSFC-S-09; NASA-TM-109585; NONP-NASA-VT-93-190383; No Copyright; Avail: CASI: C01, DVD

This video presents Tracking and Data Relay Satellite and Goddard Space Flight Center involvement.

CASI

Satellite Communication; TDR Satellites

19940010801 NASA Marshall Space Flight Center, Huntsville, AL, USA
Space Station: The link to America's future
Feb 1, 1989; In English; 5 min. 41 sec. playing time, in color, with sound
Report No(s): MSFC-14261; NASA-TM-109653; NONP-NASA-VT-93-190451; No Copyright; Avail: CASI: C01, DVD

This video documents the planned design and development of the Space Station.

CASI

NASA Space Programs; Space Station Freedom

19940010805 NASA Marshall Space Flight Center, Huntsville, AL, USA
Inertial Upper Stage
Feb 1, 1989; In English; 5 min. playing time, in color, with sound
Report No(s): MSFC-14308; NASA-TM-109654; NONP-NASA-VT-93-190452; No Copyright; Avail: CASI: C01, DVD

This video details the importance of the Inertial Upper Stage in projecting various satellites from the Shuttle's cargo bay.
CASI
Inertial Upper Stage; Orbit Insertion; Payload Delivery (STS)

19940010823 NASA, Washington, DC, USA
Comet Halley returns
Dec 1, 1985; In English; 3 min. 5 sec. playing time, in color, with sound
Report No(s): ASR-239; NASA-TM-109608; NONP-NASA-VT-93-190406; No Copyright; Avail: CASI: C01, DVD

This video shows the five exploratory spacecraft, representing several countries, that will study Comet Halley: Giotto, Vega 1 and 2, Planet A, and Sakigaki.
CASI
Giotto Mission; Halley's Comet; Vega Project

19940010963 NASA, Washington, DC, USA
First US Mars landing
Jun 1, 1976; In English; 4 min. 30 sec. playing time, in color, with sound
Report No(s): ASR-136; NASA-TM-109669; NONP-NASA-VT-93-190467; No Copyright; Avail: CASI: C01, DVD

This video shows the launches of Viking 1 and 2 and discusses objectives of the first mission to Mars.
CASI
Mars Landing; Space Exploration; Viking Mars Program

19940010985 NASA Johnson Space Center, Houston, TX, USA
Dare to dream
Jun 1, 1989; In English; 5 min. 52 sec. playing time, in color, with sound
Report No(s): JSC-1100; NASA-TM-109512; NONP-NASA-VT-93-190309; No Copyright; Avail: CASI: C01, DVD

This video describes the Space Station Freedom and discusses the purpose of this international project.
CASI
Mission Planning; Space Station Freedom

19940011023 NASA Langley Research Center, Hampton, VA, USA
Long Duration Exposure Facility retrieval animation
Nov 1, 1989; In English; 4 min. 15 sec. playing time, in color, with sound
Report No(s): NASA-TM-109426; NONP-NASA-VT-93-190223; No Copyright; Avail: CASI: C01, DVD

This video is a computer animation of a Long Duration Exposure Facility (LDEF) retrieval.
CASI
Long Duration Exposure Facility; Spacecraft Recovery

19940011024 NASA Langley Research Center, Hampton, VA, USA
Long Duration Exposure Facility
Jun 1, 1989; In English; 4 min. 15 sec. playing time, in color, with sound
Report No(s): NASA-TM-109427; NONP-NASA-VT-93-190224; No Copyright; Avail: CASI: C01, DVD

A summary of the Long Duration Exposure Facility from launch through plans for the retrieval is presented.
CASI
Long Duration Exposure Facility; Mission Planning; Space Shuttle Payloads; Spacecraft Launching; Spacecraft Recovery

19940011037 NASA, Washington, DC, USA
Space Station resource reel
Jul 1, 1990; In English; 24 min. playing time, in color, with sound
Report No(s): NASA-TM-109673; NONP-NASA-VT-93-190471; No Copyright; Avail: CASI: C01, DVD

This video presents a series of takes and sequences with model photography of 1990 Space Station design.

CASI

Space Stations; Spacecraft Design

19940014448 NASA, Washington, DC, USA
LDEF update
Oct 1, 1990; In English; 3 min. 17 sec. playing time, in color, with sound
Report No(s): ASR-254; NASA-TM-109352; NONP-NASA-VT-94-198199; No Copyright; Avail: CASI: C01, DVD

This video explores the research being done on the Long Duration Exposure Facility (LDEF), a satellite carrying 57 experiments designed to study the effects of the space environment, which had been in orbit for almost 6 years, and was retrieved and brought back to Earth by the Space Shuttle Astronauts. The video shows scenes of the retrieval of LDEF, as well as scenes of ongoing research into the data returned with the satellite from experiments on external coating, contamination of optical materials by thermal control paint, the effects of cosmic rays on different materials, and the effect of the space environment on 12 million tomato seeds that have since been planted.

CASI

Earth Orbital Environments; Environmental Tests; Long Duration Exposure Facility; Space Shuttle Payloads; Spacecraft Recovery

19940014449 NASA, Washington, DC, USA
Designing Space Station
Oct 1, 1986; In English; 3 min. 23 sec. playing time, in color, with sound
Report No(s): ASR-241; NASA-TM-109353; NONP-NASA-VT-94-198200; No Copyright; Avail: CASI: C01, DVD

An overview of preparations for the construction of Space Station Freedom (SSF) is presented. The video includes footage of astronauts testing materials for erectable structures in space both in the Shuttle bay while in orbit and in a neutral buoyancy tank at McDonald Douglas' Underwater Test Facility. Also shown are footage of robot systems that will assist the astronauts in building SSF, a computer simulation of an Orbiting Maneuvering Vehicle, solar dynamic mirrors that will power SSF, and mockups of the living quarters of the SSF.

CASI

Orbital Assembly; Space Station Freedom; Spacecraft Design

19940014492 NASA Goddard Space Flight Center, Greenbelt, MD, USA
TDRS press release
Oct 1, 1988; In English; 7 min. playing time, in color, with sound
Report No(s): GSFC-R-37; NASA-TM-109373; NONP-NASA-VT-94-198220; No Copyright; Avail: CASI: C01, DVD

This material is released to both local and national broadcast media showing the Tracking and Data Relay Satellite (TDRS). The tape has split audio to facilitate ease of customizing for individual broadcast formats.

CASI

Functional Design Specifications; TDR Satellites

19940029053 NASA Goddard Space Flight Center, Greenbelt, MD, USA
Cosmic Background Radiation Explorer (COBE)
Oct 1, 1989; In English; 12 min. 56 sec. playing time, in color, with sound
Report No(s): GSFC-T-23; NASA-TM-109801; NONP-NASA-VT-94-12929; No Copyright; Avail: CASI: C01, DVD

This video explains the mission of the Cosmic Background Radiation Explorer (COBE) prior to its November 1989 launch. It also includes animated footage on the Big Bang theory.

CASI

Background Radiation; Big Bang Cosmology; Cosmic Background Explorer Satellite; Spaceborne Astronomy

19940029055 NASA, Washington, DC, USA
USA/Russia space cooperation documentary
Dec 1, 1993; In English; 24 min. 15 sec. playing time, in color, with sound
Report No(s): NASA-TM-109809; NONP-NASA-VT-94-12937; No Copyright; Avail: CASI: C01, DVD

This video documents the initiative to develop a multinational, permanent space research laboratory. Historical background on the U.S. and Soviet manned space flight program as well as joint efforts such as the Apollo-Soyuz link up is shown. The current initiative will begin with collaborative missions involving NASA's space shuttle and Russia's Mir space station, and culminate in a permanently manned space station involving the U.S., Russia, Japan, Canada, and ESA. Shown are computer simulations of the proposed space station. Commentary is provided by the NASA administrator, former astronauts, cosmonauts, and Russian and American space experts.
CASI
International Cooperation; Manned Space Flight; NASA Space Programs; Space Stations; U.S.S.R. Space Program

19940029074 NASA Lewis Research Center, Cleveland, OH, USA
Dynamic analysis for Space Station Freedom
JAN 1, 1991; In English; 13 min. 30 sec. playing time, in color, with sound
Report No(s): LERC-CV-112; NASA-TM-109826; NONP-NASA-VT-94-12954; No Copyright; Avail: CASI: C01, DVD

This video utilizes computer animations to identify the structure, functions, and design of the Space Station Freedom.
CASI
Computer Animation; Dynamic Structural Analysis; Space Station Freedom

19950004137 NASA, Washington, DC, USA
Space Station quarterly, May 1992
May 1, 1992; In English; 10 min. 12 sec. playing time, with sound
Report No(s): NASA-TM-109890; NONP-NASA-VT-94-23141; No Copyright; Avail: CASI: C01, DVD

This quarterly report discusses the First International Microgravity Laboratory, the building of space station truss structures at the Johnson Space Center, the building of the living and laboratory modules at the Marshall Space Flight Center, and the Lewis Research Center's work on power for the space station. The video includes a segment on the Japanese Experiment Module.
CASI
Space Laboratories; Space Station Power Supplies; Space Station Structures; Space Stations; Spacecraft Modules

19950004141 NASA, Washington, DC, USA
Aero-Space Plane: Flexible access to space
Aug 1, 1991; In English; 3 min. 10 sec. playing time, in color, with sound
Report No(s): NASA-TM-109904; NONP-NASA-VT-94-23146; ASR-257; No Copyright; Avail: CASI: C01, DVD

The most recently designed X-30 (National Aerospace Plane) is described. The video feature also chronicles the development of the X-plane series, beginning with the X-1.
CASI
Aerospace Planes; National Aerospace Plane Program; X-31 Aircraft

19950010526 NASA Johnson Space Center, Houston, TX, USA
Houston, I think we've got a satellite
JAN 1, 1992; In English; 30 min. playing time, in color, with sound
Report No(s): NASA-TM-109987; NONP-NASA-VT-95-34902; No Copyright; Avail: CASI: C01, DVD

This video highlights the record breaking mission of STS-49, the maiden voyage of the Space Shuttle Endeavor. It

includes the dramatic capture, repair, and reboost of the INTELSAT VI Satellite, as well as the ASEM experiment. The effectiveness of certain EVA techniques for the future construction of a space station is demonstrated.
JSC
Construction; Endeavour (Orbiter); Extravehicular Activity; INTELSAT Satellites; Space Shuttles; Space Stations

19950012624 NASA Johnson Space Center, Houston, TX, USA
Gemini 8, This is Houston, flight
JAN 1, 1966; 26 pp.; In English; 25 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110490; NONP-NASA-VT-95-39135; No Copyright; Avail: CASI: C01, DVD

The historic first docking in space with the Agena is completed. Camaras record the harrowing experiences of the astronauts as Gemini VIII wildly gyrates through space following a malfunction. The spacecraft is separated from the Agena, brought under control and reentry is achieved.
JSC
Agena Rocket Vehicles; Gemini Spacecraft; Gemini 8 Flight; Malfunctions; Spacecraft Docking

19950015441 NASA Johnson Space Center, Houston, TX, USA
Tethered satellite: Forces and motion
Oct 21, 1994; In English; 21 min. 11 sec. playing time, in color, with sound
Report No(s): NASA-TM-110518; NONP-NASA-VT-95-42566; No Copyright; Avail: CASI: C01, DVD

In this 'Lift off to Learning' series, Loren Shriver, commander of STS 46, and the other members of the mission (Claude Nicollier, Marsha Ivins, Andrew Allen, Jeffrey Hoffman, Franklin Chiang-Diaz, and Franco Maerba) use computer graphics, and physical experiments to explain how the tethered satellite to be deployed during their mission will be raised, how it works, the influence of the Shuttle on the satellite and the satellite's influence on the Shuttle's orbit, the gravitational effects, and other effects concerning the Theoretical Physics used to plan this mission (gravity gradient force, center of mass, angular momentum, centrifugal force, and coriolis effect). This video ends with a discussion of the technology transfer and utilization of this tethered satellite concept and design.
CASI
Computer Graphics; Computerized Simulation; Gravitational Effects; Mission Planning; Payload Deployment & Retrieval System; Space Shuttle Missions; Spaceborne Experiments; Tethered Satellites; Theoretical Physics

19950016125 NASA, Washington, DC, USA
Hey! What's Space Station Freedom?
Vonehrenfried, Dutch; JAN 1, 1992; In English; 28 min. 49 sec. playing time, in color, with sound
Report No(s): NASA-TM-110531; NONP-NASA-VT-95-42907; No Copyright; Avail: CASI: C01, DVD

This video, 'Hey! What's Space Station Freedom?', has been produced as a classroom tool geared toward middle school children. There are three segments to this video. Segment One is a message to teachers presented by Dr. Jeannine Duane, New Jersey, 'Teacher in Space'. Segment Two is a brief Social Studies section and features a series of Presidential Announcements by President John F. Kennedy (May 1961), President Ronald Reagan (July 1982), and President George Bush (July 1989). These historical announcements are speeches concerning the present and future objectives of the USA' space programs. In the last segment, Charlie Walker, former Space Shuttle astronaut, teaches a group of middle school children, through models, computer animation, and actual footage, what Space Station Freedom is, who is involved in its construction, how it is to be built, what each of the modules on the station is for, and how long and in what sequence this construction will occur. There is a brief animation segment where, through the use of cartoons, the children fly up to Space Station Freedom as astronauts, perform several experiments and are given a tour of the station, and fly back to Earth. Space Station Freedom will take four years to build and will have three lab modules, one from ESA and another from Japan, and one habitation module for the astronauts to live in.
CASI
Education; International Space Station; Modules; Orbital Assembly; Space Erectable Structures; Space Laboratories; Space Platforms; Space Station Freedom; Space Station Payloads; Structural Design

19950023212 Roland House, Arlington, VA, USA

Hernandez Engineering: NASA

Apr 22, 1992; In English; 2 min. 54 sec. playing time, in color, with sound

Report No(s): NASA-CR-197665; HQ-92-04-0371; NONP-NASA-VT-95-46019; No Copyright; Avail: CASI: C01, DVD

A short explanation of NASA's accomplishments and goals are discussed in this video. Space Station Freedom, lunar bases, manned Mars mission, and robotic spacecrafts to explore other worlds are briefly described.

CASI

Aerospace Engineering; NASA Space Programs; Research Projects; Technological Forecasting; Technology Assessment

19950024433 NASA Johnson Space Center, Houston, TX, USA

Mir 18 post flight presentation

Jul 18, 1995; In English; 29 min. 15 sec. playing time, in color, with sound

Report No(s): NASA-TM-110657; JSC-1516; NONP-NASA-VT-95-59072; No Copyright; Avail: CASI: C01, DVD

The post flight presentation for the Mir 18 Mission is featured on this video, with both the American astronauts and Russian Cosmonauts present for the press conference. They included: Gibson; Precourt; Baker; Harbough; Dunbar; Strekalov; Dezhurov; and Thagard. Film footage and photographic slides of the various activities performed aboard the Mir Space Station and the spaceborne experiments accomplished during the flight mission are presented. Each of the operations are explained by the cosmonauts, with brief views of the Atlantis-Mir Earth orbital rendezvous over the Red Sea included.

CASI

Astronauts; Cosmonauts; Earth Orbital Rendezvous; Earth Orbits; International Cooperation; Mir Space Station; Russian Space Program; Space Missions; Space Shuttles

20000064717 NASA Marshall Space Flight Center, Huntsville, AL USA

Starfire I/ Consort III Launch

May 16, 1990; In English; 28 min. 11 sec. playing time, in color. with sound

Report No(s): NONP-NASA-VT-2000081529; No Copyright; Avail: CASI: C01, DVD

The Consort 3 is a commercial suborbital rocket that carried 12 microgravity experiments. It was launched on a Starfire rocket on May 16, 1990, from the Naval Ordnance Missile Test Station facilities at the U.S. Army's White Sands Missile Range (WSMR), NM. The video opens with approximately 2 minutes of a man speaking into a microphone but there is no sound. This is followed by a brief summary of the payload, and the expected trajectory, a view of the launch vehicle, the countdown and the launch. The video then shows a film clip from the University of Alabama, with Dr. Francis Wessling, project manager for the Consort 3 project, speaking about the mission goals in the materials sciences experimentation. The video shows footage of the payload being assembled. The next section is a discussion by Dr. Roy Hammustedt, of Pennsylvania State University, who reviews the Penn State Bio Module,and the goal of learning about the effects of gravity on physiology. This is followed by George Maybee, from McDonald Douglas, who spoke about the payload integration process while the video shows some of the construction. The last section of the video shows a press conference at the launch site. Ana Villamil answers questions from the press about the flight.

CASI

Launching; Microgravity; Payloads; Low Gravity Manufacturing; Gravitational Physiology; Physiological Effects

20070030945 NASA Langley Research Center, Hampton, VA USA

Landing Energy Dissipation for Manned Reentry Vehicles

Fisher, Loyd. L.; June 07, 1960; In English; See also 19980228267; See also NASA-TN-D-453; Silent, Color, 128ft., 3.5min.; DVD produced from the original 16mm recording

Report No(s): L-540; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

The film shows experimental investigations to determine the landing-energy-dissipation characteristics for several types of landing gear for manned reentry vehicles. The landing vehicles are considered in two categories: those having essentially vertical-descent paths, the parachute-supported vehicles, and those having essentially horizontal paths, the lifting vehicles. The energy-dissipation devices include crushable materials such as foamed plastics and honeycomb for internal application in

couch-support systems, yielding metal elements as part of the structure of capsules or as alternates for oleos in landing-gear struts, inflatable bags, braking rockets, and shaped surfaces for water impact.
Author (revised)
Reentry Vehicles; Spacecraft Landing; Manned Reentry; Space Capsules

20070030950 National Advisory Committee for Aeronautics. Langley Aeronautical Lab., Langley Field, VA USA
Water Landing Characteristics of a 1/6-Scale Model Reentry Capsule with an 80-Inch Heat Shield
September 11, 1959; In English; Silent, Color, 150ft., 4min.; DVD produced from the original 16mm recording
Report No(s): L-487; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Variables for the reentry capsule water landing tests were flight path, vertical contact velocity, and contact attitude. The capsule weighed 1900 pounds with a center of gravity 16.8 inches above maximum diameter.
Derived from text
Water Landing; Spacecraft Reentry; Heat Shielding

20070030951 NASA Langley Research Center, Hampton, VA USA
Dynamic Model Tests of Models of the McDonnell Design of Project Mercury Capsule in the Langley 20-Foot Free-Spinning Tunnel
June 10, 1961; In English; Silent, Black & White, 800ft., 22min.; DVD produced from the original 16mm recording
Report No(s): L-463; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

On 10 June 1961, 33 tests of the aerodynamic response of the McDonnell model Mercury capsule were conducted. Variables included spin, different parachute tethers, and the addition of baffles.
Derived from text
Dynamic Models; Mercury Spacecraft; Wind Tunnel Tests; Dynamic Response

20070030952 National Advisory Committee for Aeronautics. Langley Aeronautical Lab., Langley Field, VA USA
Dynamic Model Tests of Models in the McDonnell Design of Project Mercury Capsule in the Langley 20-Foot Free-Spinning Tunnel
May 11, 1959; In English; Silent, Black & White, 830ft., 23min.; DVD produced from the original 16mm recording
Report No(s): L-458; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

On 11 May 1959, 24 tests of the aerodynamic response of the McDonnell model Project Mercury capsule were conducted. The initial test demonstrated free-fall; a parachute was used in the remaining test. Several tests included the addition of baffles.
Derived from text
Dynamic Models; Mercury Spacecraft; Wind Tunnel Tests

20070030955 NASA Langley Research Center, Hampton, VA USA
Water Landing Characteristics of a Reentry Capsule
December 23, 1958; In English; See also 19980228040; See also NASA-MEMO-5-23-59L; Silent, Color, 110ft., 3min.; DVD produced from the original 16mm recording
Report No(s): L-415; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Experimental and theoretical investigations have been made to determine the water-landing characteristics of a conical-shaped reentry capsule having a segment of a sphere as the bottom. For the experimental portion of the investigation, a 1/12-scale model capsule and a full-scale capsule were tested for nominal flight paths of 65 deg and 90 deg (vertical), a range of contact attitudes from -30 deg to 30 deg, and a full-scale vertical velocity of 30 feet per second at contact. Accelerations were measured by accelerometers installed at the centers of gravity of the model and full-scale capsules. For the model test the accelerations were measured along the X-axis (roll) and Z-axis (yaw) and for the full-scale test they were measured along the X-axis (roll), Y-axis (pitch), and Z-axis (yaw). Motions and displacements of the capsules that occurred after contact were determined from high-speed motion pictures. The theoretical investigation was conducted to determine the accelerations that might occur along the X-axis when the capsule contacted the water from a 90 deg flight path at a 0 deg attitude. Assuming

a rigid body, computations were made from equations obtained by utilizing the principle of the conservation of momentum. The agreement among data obtained from the model test, the full-scale test, and the theory was very good. The accelerations along the X-axis, for a vertical flight path and 0 deg attitude, were in the order of 40g. For a 65 deg flight path and 0 deg attitude, the accelerations along the X-axis were in the order of 50g. Changes in contact attitude, in either the positive or negative direction from 0 deg attitude, considerably reduced the magnitude of the accelerations measured along the X-axis. Accelerations measured along the Y- and Z-axes were relatively small at all test conditions.
Author
Water Landing; Conical Bodies; Reentry Vehicles; Full Scale Tests; Spacecraft Landing; Space Capsules

20070030957 National Advisory Committee for Aeronautics. Langley Aeronautical Lab., Langley Field, VA USA
Reentry Body Stability Tests Conducted in Langley Spin Tunnel
June 09, 1958; In English; Silent, Black & White, 40ft., 1min.; DVD produced from the original 16mm recording
Report No(s): L-346; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Reentry body stability tests were conducted in an initial configuration, with a small drogue chute, with an extendable flare, and in an alternate configuration with a covered flare.
Derived from text
Reentry Vehicles; Wind Tunnel Tests; Wind Tunnel Stability Tests; Spacecraft Stability

20070030961 National Advisory Committee for Aeronautics. Langley Aeronautical Lab., Langley Field, VA USA
Saturn: A Giant Thrust into Space
January 1962; In English; Color, Sound, 369ft., 10 min
Report No(s): L-724; HQ-36; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

The film provides an introduction and overview of the Saturn launch vehicle. It is designed with stages to drop off as fuel is spent. There may be two, three, or four stages, depending on the payload. The Saturn rocket will be used to send Apollo missions to the Moon and back. Guidance systems and booster engine rockets are based on proven mechanisms. Scale models are used to test the engines. Hardware, airframes, guidance systems, instrumentation, and the rockets are produced at sites throughout the country. The engines go to Marshall Space Flight Center for further tests. After partial assembly, the vehicle is shipped to Cape Canaveral in large pieces where it is assembled using specially built equipment and structures. Further trials are performed to assure successful launches.
CASI
Saturn Launch Vehicles; Saturn Project

20070030964 NASA Langley Research Center, Hampton, VA USA
Blast Effects of Twin Variable-Cant Rocket Nozzles on Visibility During Landing on a Particle-Covered Surface
Hurt, G. J.; Lina, L. J.; September 08, 1964; In English; See also 19650002904; See also NASA-TN-D-2455; Silent, Black and White, 530ft., 14.5min.; DVD produced from the original 16mm recording
Report No(s): L-689; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

A limited investigation has been conducted to determine the jet-blast effect of twin variable-cant supersonic nozzles. These tests were made to examine the result of using canted main rocket engines to sweep the blast debris outward from the proposed landing area of a rocket-powered vehicle making a vertical approach to a touchdown. Cant angles from 0 degrees to 75 degrees, at intervals of 15 degrees, were tested at low ambient pressure and at atmospheric ambient pressure. Nozzle chamber pressures used were 400 psi and 2000 psi.
Derived from text
Jet Blast Effects; Rocket Nozzles; Slopes; Visibility; Supersonic Nozzles; Vertical Landing

20070030966 NASA Langley Research Center, Hampton, VA USA

An Exploratory Investigation of Jet Blast Effects on a Dust Covered Surface at Low Ambient Pressure

Spady, Jr. A. A.; December 08, 1961; In English; See also 19620000062; See also NASA-TN-D-1017; Silent, Black & White, 702ft., 19min.; DVD produced from the original 16mm recording

Report No(s): L-671; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

A preliminary investigation has been conducted to determine the effects of jet blast, at low ambient pressures, on a surface covered with loose particles. Tests were conducted on configurations having from one to four nozzles at 0, 10, 20, and 30 degree cant angles and heights of 2 and 4 inches above the particle-covered surface.

Author (revised)

Jet Nozzles; Jet Blast Effects; Rocket Launching; Dust; Spacecraft Landing

20070030968 NASA Langley Research Center, Hampton, VA USA

Effect of Load-Alleviating Structure on the Landing Behavior of a Reentry-Capsule Model

Hoffman, E. L.; McGhee, J. R.; Stubbs, S. M.; March 13, 1961; In English; See also 20040008118; See also NASA-TN-D-811; Silent, Color, 77ft., 2min.; DVD produced from the original 16mm recording

Report No(s): L-606; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Model tests have been made to determine the landing-impact characteristics of a parachute-supported reentry capsule that had a compliable metal structure as a load-alleviating device. A 1/6-scale dynamic model having compliable aluminum-alloy legs designed to give a low onset rate of acceleration on impact was tested at flight-path angles of 90 degrees (vertical) and 35 degrees, at a vertical velocity of 30 ft/sec (full scale), and at contact attitudes of 0 degrees and +/-30 degrees. Landings were made on concrete, sand, and water.

Author (revised)

Landing Loads; Impact Loads; Spacecraft Landing; Space Capsules; Aluminum Alloys

20070030969 NASA Langley Research Center, Hampton, VA USA

Landing of Manned Reentry Vehicles

February 1961; In English; Silent, Color, 130ft., 4min.; DVD produced from the original 16mm recording

Report No(s): L-600; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Landing characteristics were investigated using dynamic models. The landing speeds for several let-down systems are simulated. Demonstrations include: (1) the vertical landing of parachute-supported capsules on water; (2) reduction of landing acceleration by shaping the impact surface for water entry; (3) problems created by horizontal velocity due to wind; (4) the use of energy absorbers (yielding metal legs or torus bags) for land or water landings; (5) problems associated with horizontal land landings; (6) the use of a paraglider to aid in vehicle direction control; (7) a curved undersurface to serve as a skid-rocker to convert sinking-speed energy into angular energy; (8) horizontal-type landing obtained with winged vehicles on a hard runway; (9) the dangers of high-speed water landings; and (10) the positive effects of parachute support for landing winged vehicles.

Derived from text

Aerodynamic Characteristics; Dynamic Models; Manned Spacecraft; Water Landing; Vertical Landing; Spacecraft Landing

20070030971 NASA Langley Research Center, Hampton, VA USA

1/9-Scale Saturn Model

December 23, 1960; In English; Silent, Color, 140ft., 4min.; DVD produced from the original 16mm recording

Report No(s): L-592; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

The film shows technicians assembling the nose cone on a Saturn model rocket in a test facility. The booster configuration is show. After the nose cone is in place, a meter is attached at the joint and vibration tests are conducted.

CASI

Nose Cones; Spacecraft Models; Scale Models; Saturn Launch Vehicles

20070030974 NASA Langley Research Center, Hampton, VA USA

Preliminary Landing Tests of a 1/6-Scale Dynamic Model of a Lunar Excursion Vehicle

July 02, 1962; In English; Silent, Black & White, 240ft., 6.5min.; DVD produced from the original 16mm recording

Report No(s): L-733; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

The film shows 21 trials made on 8 days of the scale Model 413 lunar landing vehicle. Attitudes tested were a pitch of 0, -15, or 15 degrees and yaw of 0 or 45 degrees. Velocities were vertical 10 and horizontal 10, though two trials were simple vertical drops.

Derived from text

Lunar Landing; Landing Simulation; Lunar Landing Modules; Dynamic Models

20070030975 NASA Langley Research Center, Hampton, VA USA

Landing Characteristics of the Apollo Spacecraft with Deployed Heat Shield Impact Attenuation Systems

Stubbs, Sandy M.; October 11, 1965; In English; See also 19660005612; See also NASA-TN-D-3059; Silent, Color, 580ft.; DVD produced from the original 16mm recording

Report No(s): L-886; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

An experimental investigation was made to determine the landing characteristics of a 1/4-scale dynamic model of the Apollo spacecraft command module using two different active (heat shield deployed prior to landing) landing systems for impact attenuation. One landing system (configuration 1) consisted of six hydraulic struts and eight crushable honeycomb struts. The other landing system (configuration 2), consisted of four hydraulic struts and six strain straps. Tests made on water and the hard clay-gravel composite landing surfaces simulated parachute letdown (vertical) velocities of 23 ft/sec (7.0 m/s) (full scale). Landings made on the sand landing surface simulated vertical velocities of 30 ft/sec (9.1 m/s). Horizontal velocities of from 0 to 50 ft/sec (15 m/s) were simulated. Landing attitudes ranged from -30'degrees to 20 degrees, and the roll attitudes were O degrees, 90 degrees, and 180 degrees. For configuration 1, maximum normal accelerations at the vehicle center of gravity for landings on water, sand, and the hard clay-gravel composite surface were 9g, 20g, and 18g, respectively. The maximum normal center-of-gravity acceleration for configuration 2 which was landed only on the hard clay-gravel landing surface was approximately 19g. Accelerations for configuration 2 were generally equal to or lower than accelerations for configuration 1 and normal.

Author

Aerodynamic Characteristics; Apollo Spacecraft; Command Modules; Heat Shielding; Impact Tests; Impact Acceleration

20070030977 NASA Langley Research Center, Hampton, VA USA

Model Investigation of Technique for Full Scale Landing Impact Tests at Simulated Lunar Gravity

Blanchard, Ulysse J.; January 11, 1965; In English; See also 19650008606; See also NASA-TN-D-2586; Silent, Color, 147ft., 4min.; DVD produced from the original 16mm recording

Report No(s): L-856; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

An investigation of a 1/6-scale dynamic model has been made to develop and evaluate a technique for conducting full-scale landing-impact tests at simulated lunar gravity. Landings were made at touchdown pitch attitudes of -15 degrees, 0 degrees, and 15 degrees. All landings were made with two gear pads forward and at a roll attitude of 0 degrees. Both roll and yaw attitudes were constrained. Vertical landing speed was varied from 5 to 15 feet per second (1.5 to 4.6 m/s) and horizontal speed was varied from 0 to 10 feet per second (0 to 3.0 m/s). Most of the landings were made at a vertical and horizontal speed of 10 feet per second or 3.0 m/s (45 degree flight-path angle) while pitch attitude and surface characteristics, friction and topography, were varied. These parameters were investigated with the free-body earth-gravity and the simulated lunar-gravity test techniques. The landings were made at a model mass corresponding to a full-scale lunar weight (force due to gravity) of 1,440 pounds (6.41 kN) or an earth weight of 8,640 pounds (38.4 kN).

Derived from text

Angular Acceleration; Landing Simulation; Spacecraft Models; Touchdown; Lunar Landing; Dynamic Models

20070030978 NASA Langley Research Center, Hampton, VA USA

Dynamic Model Investigation of the Landing Characteristics of a Manned Spacecraft

Thompson, William C.; December 1964; In English; See also 19650007935; See also NASA-TN-D-2497; Silent, Color, 215ft., 6min.; DVD produced from the original 16mm recording

Report No(s): L-848; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Investigations were made to study the water-landing and certain grounds-surface landing characteristics of a Gemini spacecraft model. The water landing experiments were made by simulating paraglider and parachute letdowns with two 1/6-scale model configurations. Parameters included various combinations of attitude, horizontal speed, vertical speed, and landing skids extended and retracted. Investigations were made in calm water and in waves. The paraglider landings at horizontal speeds of 63 feet per second (19.8 m/sec) which resulted in a noseover or tumbling shortly after initial water contact. The maximum longitudinal acceleration of the model in calm water was about 14g units, and the maximum angular acceleration was 66 radians per second squared. In the parachute landings with the heat shield forward, the model skidded along the water surface on the heat shield. Parachute landings with the small end forward resulted in behavior similar to that of the paraglider landings. The ground-surface landings were made with a 1/3-scale model by simulating a parachute letdown with braking rockets, which were fired prior to touchdown to dissipate vertical velocity. In these landings, control of timing and aligning the rockets on the model was very critical, and violent behavior resulted when either rocket alignment or timing was in error. In the landings that were correctly controlled, the model either remained upright or slowly rolled over on its side.

Author (revised)

Dynamic Models; Gemini Spacecraft; Spacecraft Models; Touchdown; Landing Simulation; Manned Spacecraft; Spacecraft Landing

20070030979 NASA Langley Research Center, Hampton, VA USA

Model Test of Mars Entry Vehicles in Langley Spin Tunnel

October 08, 1964; In English; Silent, Black & White, 120ft., 3.5min; DVD produced from the original 16mm recording

Report No(s): L-844; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Four models of Mars entry vehicles tested were a sphere with cg=35 percent (measured in percent of diameter from surface); Apollo with cg=16 percent (measured in percent of maximum diameter rearward of heat shield); a 103-degree cone with cg=20 percent (measured in percent of maximum diameter rearward of small end); and a tension structure: cg=25 percent (measured in percent of maximum diameter rearward of small end).

Derived from text

Mars Landing; Spacecraft Reentry; Spin Tests; Wind Tunnel Tests

20070030980 NASA Langley Research Center, Hampton, VA USA

Performance Characteristics of a Preformed Elliptical Parachute at Altitudes between 200,000 and 100,000 Thousand Feet Obtained by In-Flight Photography

Murro, Harold N.; Whitlock, Charles, H.; October 31, 1963; In English; See also 19640005308; See also NASA-TN-D-2183; Silent, Color, 3820ft., 35.5min.; DVD produced from the original 16mm recording

Report No(s): L-816; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

The performance characteristics of a pre-formed elliptical parachute at altitudes between 200,000 and 100,000 feet were obtained by means of in-flight photography. The tests demonstrate that this type of parachute will open at altitudes of about 200,000 feet if conditions such as twisting of the suspension lines or draping of the suspension lines over the canopy do not occur. Drag-coefficient values between 0.6 and 0.8 were found to be reasonable for this type of parachute system in the altitude range between 200,000 and 100,000 feet.

Author (revised)

High Altitude Tests; Parachute Descent; Parachutes; Performance Tests

20070030981 NASA Langley Research Center, Hampton, VA USA

Landing Characteristics of a Re-entry Vehicle with a Passive Landing System for Impact Alleviation

Stubbs, Sandy M.; September 10, 1963; In English; See also 19640002968; See also NASA-TN-D-2035; Silent, Color, 180ft., 4.5min.; DVD produced from the original 16mm recording

Report No(s): L-807; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

An experimental investigation was made to determine the landing characteristics of a 1/8-scale dynamic model of a reentry vehicle using a passive landing system to alleviate the landing-impact loads. The passive landing system consisted of a flexible heat shield with a small section of aluminum honeycomb placed between the heat shield and the crew compartment at the point that would be the first to contact the landing surface. The model was landed on concrete and sand landing surfaces at parachute letdown velocities. The investigations simulated a vertical velocity of 30 ft/sec (full scale), horizontal velocities of 0, 15, 30, 40, and 50 ft/sec (full scale), and landing attitudes ranging from -30 degrees to 20 degrees. The model investigation indicated that stable landings could be made on a concrete surface at horizontal velocities up to about 30 ft/sec, but the stable landing-attitude range at these speeds was small. The aluminum honeycomb bottomed occasionally during landings on concrete. When bottoming did not occur, maximum normal and longitudinal accelerations at the center of gravity of the vehicle were approximately 50g and 30g, respectively.
Author
Spacecraft Landing; Dynamic Models; Reentry Vehicles; Touchdown; Landing Loads

20070030982 NASA Langley Research Center, Hampton, VA USA
Characteristics of a Lunar Landing Configuration Having Various Multiple-Leg Landing-Gear Arrangements
Blanchard, Ulysse J.; September 08, 1963; In English; See also 19640005067; See also NASA-TN-D-2027; Silent, Color, 560ft., 15min.; DVD produced from the original 16mm recording
Report No(s): L-803; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

An experimental investigation has been made of some lunar-landing characteristics of a 1/6-scale dynamic model of a landing module having multiple-leg landing-gear systems. Symmetric four-point and five-point systems and an asymmetric four-point system were investigated. The landing-gear legs were inverted tripod arrangements having a telescoping main strut which incorporated a yielding-metal strap for energy dissipation, hinged V-struts, and circular pads. The landing tests were made by launching a free model onto an impenetrable hard surface (concrete) and onto a powdered-pumice overlay of various depths. Landing motion and acceleration data were obtained for a range of touchdown speeds, touchdown speeds, touch attitudes, and landing-surface conditions. Symmetric four-point and five-point systems and an Maximum normal acceleration experienced at the module center of gravity during landings on hard surface or pumice was 2g (full-scale lunar value in terms of earth's gravity) over a wide range of touchdown conditions. Maximum angular acceleration experienced was 12-1/2 radians/sec(exp 2) and maximum longitudinal acceleration was 1-3/4 g. The module was very stable with all gear configurations during landings on hard surface (coefficient of friction, microns=0.4) at all conditions tested. Some overturn instability occurred during landings on powdered pumice (microns=0.7 to 1.0) depending upon flight path, pitch and yaw attitude, depth of pumice, surface topography, and landing-gear configuration. The effect of stability of roll attitude for the limited amount of roll-attitude landing data obtained was insignificant. Compared with the four-point system, the five-point system with equal maximum gear radius increased landing stability slightly and improved the static stability for subsequent lunar launch. A considerable increase in landing stability in the direction of motion was obtained with an asymmetric four-point gear having two pads offset to increase gear radius by 33 percent in the direction of horizontal flight.
Author
Lunar Landing; Landing Gear; Scale Models; Dynamic Models; Lunar Landing Modules; Landing Simulation; Impact Tests

20070030983 NASA Langley Research Center, Hampton, VA USA
Rendezvous Docking Simulator
August 1963; In English; Color, 180ft., 5min.; DVD produced from the original 16mm recording
Report No(s): L-802; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

The simulation demonstrated linear and gimbal motions of the capsule and a Gemini-Agena docking.
Derived from text
Agena Rocket Vehicles; Spacecraft Docking; Gemini Spacecraft; Spacecraft Docking Modules

20070030985 NASA Langley Research Center, Hampton, VA USA
Dynamic Model Investigation of a 1/20 Scale Gemini Spacecraft in the Langley Spin Tunnel
Lee, Henry A.; Costigan, Peter J.; Bowman, James S., Jr.; November 15, 1963; In English; See also 19640010368; See also NASA-TN-D-2191; Silent, Black & White, 280ft., 10.5min
Report No(s): L-788; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

The investigation was conducted in the Langley spin tunnel. The tunnel is an atmospheric wind tunnel with a vertically rising airstream in the test section and a maximum airspeed of approximately 90 feet per second. For this investigation, the model was hand launched into the vertically rising airstream. At times the model, both with and without a drogue parachute, was launched gently with as little disturbance as possible to determine what motions of the spacecraft were self-excited. At other times, the spacecraft with pre-deployed drogue parachute was launched into various spinning motions to determine the effectiveness of the drogue parachute in terminating these spinning motions. During drogue-parachute deployment tests, the spacecraft was launched into various spinning and tumbling motions and the drogue parachute was deployed. The motions of the model were photographed with a motion-picture camera, and some of the film records were read to obtain typical time histories of the model motion. The angles of attack indicated in the time histories presented are believed to be accurate within +/-1 degree. The mass and dimensional characteristics of the dynamic model are believed to be measured to an accuracy of: +/-1 percent for the weight, +/-1 percent for z(sub cg)/d, +/-15 percent for x (sub cg), and +/-5 percent for the moments of inertia. The towline and bridle-line lengths were simulated to an accuracy of +/-1 foot full scale.
Author (revised)
Wind Tunnel Tests; Dynamic Models; Gemini Spacecraft; Drag Chutes; Spacecraft Stability; Spin Stabilization

20070030986 NASA Langley Research Center, Hampton, VA USA
Investigation of the Landing Characteristics of a Re-entry Vehicle Having a Canted Multiple Air Bag Load Alleviation System
McGehee, John R.; Stubbs, Sandy M.; May 15, 1963; In English; See also 19630008895; See also NASA-TN-D-1934; Silent, Color, 110ft., 3min.; DVD produced from the original 16mm recording
Report No(s): L-785; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)
An investigation was made to determine the landing-impact characteristics of a reentry vehicle having a multiple-air-bag load-alleviation system. A 1/16-scale dynamic model having four canted air bags was tested at flight-path angles of 90 degrees (vertical), 45 degrees, and 27 degrees for a parachute or paraglider vertical letdown velocity of 30 feet per second (full scale). Landings were made on concrete at attitudes ranging from -l5 degrees to 20 degrees. The friction coefficient between the model heat shield and the concrete was approximately 0.4. An aluminum diaphragm, designed to rupture at 10.8 pounds per square inch gage, was used to maintain initial pressure in the air bags for a short time period.
Author
Landing Loads; Reentry Vehicles; Dynamic Models; Spacecraft Landing; Air Bag Restraint Devices

20070030987 National Advisory Committee for Aeronautics. Langley Aeronautical Lab., Langley Field, VA USA
Aeroelastic Tests of an Eight Percent Scale Saturn C-1 Block II
March 04, 1963; In English; Sound, Color, 188ft., 5.25min.; DVD produced from the original 16mm recording
Report No(s): L-769; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)
Buffet and flutter characteristics of Saturn Apollo mission were studied using a dynamically scaled model. The model was built around a central aluminum tube for scaled stiffness distribution and strength to resist loads imposed during testing. Styrofoam sections attached to the core provided the correct external contours. Lead weights were added for correct mass distribution. An electromagnetic shaker was used to excite the model in its flexible modes of vibration during portions of the test. The model was supported on a sting, mounted by leaf springs, cables and torsion bars. The support system provided for simulating the full scale rigid body pitch frequency with minimum restraint imposed on elastic deflections. Bending moments recorded by sensors on the aluminum tube. Several modified nose configurations were tested: The basic configuration was tested with and without a flow separator disk on the escape rocket motor, tests also were made with the escape tower and rocket motor removed completely. For the final test, the Apollo capsule was replaced with a Jupiter nose cone. The test program consisted of determining model response throughout the transonic speed range at angles of attack up to 6 degrees and measuring the aerodynamic damping over the same range for the basic model and the modified configurations. Signals from the model pickup were recorded on tape for later analysis. The data obtained were used to estimate bending moments that would be produced on the full-scale vehicle by aerodynamic forces due to buffeting.
Derived from text
Buffeting; Flutter Analysis; Aerodynamic Forces; Aeroelasticity; Saturn Launch Vehicles; Vibration; Bending Moments

20070030989 NASA Langley Research Center, Hampton, VA USA
Tests of Dynamic Scale Model of Gemini Capsule in the Langley 20-Foot Free-Spinning Tunnel
November 07, 1962; In English; Silent, Black & White, 27min DVD produced from the original 16mm recording
Report No(s): L-754; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

The film shows three spin tunnel tests of a 1/20 scale model of the Gemini capsule. In the first test, the capsule spins freely. In tests 2 and 3, a drogue parachute is attached to the capsule.
CASI
Gemini Spacecraft; Drag Chutes; Spin Tests; Wind Tunnel Tests

20070030990 NASA Langley Research Center, Hampton, VA USA
Performance of a Towed, 48-Inch-Diameter (121.92) Ballute Decelerator Tested in Free-Flight Mach Numbers from 4.2 to 0.4
Usry, J. W.; November 1968; In English; See also 19690008066; See also NASA-TN-D-4943; Silent, Color, 70ft., 2min.; DVD produced from the original 16mm recording
Report No(s): L-1002; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

A ballute decelerator inflated by ram air was tested in free flight to determine the inflation, drag, and stability characteristics. The decelerator had a 40-inch (101.6-cm) envelope equatorial diameter and a 10-percent burble fence. It was towed 13.5 feet (4.12 m) aft of a cone-cylinder-flare payload with a maximum diameter of 18.21 inches (46.25 cm). The decelerator was deployed at an altitude of 115,000 feet (35.1 km) at a velocity of 4400 ft/sec (1342 m/sec) and inflated at a Mach number of 4.2 and a freestream dynamic pressure of 163 lb/ft(exp 2) (7.8 kN/m(exp 2)).
Author
Ballutes; Supersonic Speed; Stability Tests; Lateral Control; Inflatable Structures

20070030991 NASA Langley Research Center, Hampton, VA USA
Flight Test of a 40-Foot Nominal-Diameter Disk-Gap-Band Parachute Deployed at a Mach Number of 1.91 and a Dynamic Pressure of 11.6 Pounds per Square Foot
Eckstrom, Clinton V.; Preisser, John S.; April 1968; In English; See also 19680014773; See also NASA-TM-X-1575; Silent, Color, 180ft., 5min.; DVD produced from the original 16mm recording
Report No(s): L-1000; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

A 40-foot (12.2 meter) nominal-diameter disk-gap-band parachute was flight tested as part of the NASA Supersonic Planetary Entry Decelerator Program (SPED-I). The test parachute was ejected by a deployment mortar from an instrumented payload at an altitude of 140,000 feet (42.5 kilometers). The payload was at a Mach number of 1.91 and the dynamic pressure was 11.6 pounds per square foot (555 newtons per square meter) at the time the parachute deployment mortar was fired. The parachute reached suspension line stretch in 0.43 second with a resultant snatch force loading of 1990 pounds (8850 newtons). The maximum parachute opening load of 6500 pounds (28,910 newtons) came 0.61 second later at a total elapsed time from mortar firing of 1.04 seconds. The first full inflation occurred at 1.12 seconds and stable inflation was achieved at approximately 1.60 seconds. The parachute had an average axial-force coefficient of 0.53 during the deceleration period. During the steady-state descent portion of the flight test, the average effective drag coefficient was also 0.53 and pitch-yaw oscillations of the canopy averaged less than 10 degrees in the altitude region above 100,000 feet (30.5 meters).
Author
Supersonic Speed; Aerodynamic Coefficients; Parachute Descent; Aerodynamic Characteristics

20070030992 NASA Langley Research Center, Hampton, VA USA
Summary of Attached Inflatable Decelerator (AID) Development
April 08, 1968; In English; Silent, Color, 226ft., 6min.; DVD produced from the original 16mm recording
Report No(s): L-997; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Attached inflatable decelerators (AID) were tested in an environmental chamber, a spin tunnel, and a wind tunnel. Deployment tests were conducted in environmental chamber to examine guided and unguided water alcohol vapor inflation.

Subsonic performance tests were conducted in the spin tunnel. The full-scale wind tunnel was used for AID gust and supersonic performance tests. The supersonic tests were conducted at Mach number 3.0 with 12 ounces of fluid and Mach number 2.2 with six ounces of fluid.
Derived from text
Inflatable Structures; Aerodynamic Brakes; Supersonic Speed; Wind Tunnel Tests

20070030993 NASA Langley Research Center, Hampton, VA USA
Excerpts from Test Films: Langley Impacting Structures Facility, Lunar Module
January 1968; In English; Sound, Color, 105ft., 3min.; DVD produced from the original 16mm recording
Report No(s): L-996; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

The film includes excerpts from three studies: (1) Landing characteristics of a dynamic model of the HL-10 manned lifting entry vehicle, conducted by Sandy M. Stubbs, in which the vehicle landed on water at horizontal velocities of 240- and 250-feet per second (ft/sec). (2) Dynamic model investigation of water pressures and accelerations encountered during landings of the Apollo spacecraft conducted by Sandy M. Stubbs, in which horizontal velocity was 50 ft/sec. and pitch attitude was -12 and -28 degrees. (3) Comparative landing impact tests of a 1/6-scale model as a free body under earth gravity and a tethered full-scale lunar module on the Lunar Gravity Simulator. Landing 8 is shown, with a vertical velocity of 10 ft/sec. and a horizontal velocity of 8 ft/sec. Motion pictures were taken at 400 and 64 pps.
Derived from text
Dynamic Models; Impact Tests; Manned Spacecraft; Horizontal Spacecraft Landing; Reentry Vehicles

20070030994 NASA Langley Research Center, Hampton, VA USA
Flight Test of a 30-Foot Nominal Diameter Cross Parachute Deployed at a Mach Number of 1.57 and a Dynamic Pressure of 9.7 Pounds per Square Foot
Eckstrom, Clinton V.; Preisser, John S.; March 1968; In English; See also 19680012309; See also NASA-TM-X-1542; Silent, Color, 120ft., 3.5min; DVD produced from the original 16mm recording
Report No(s): L-994; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

A 30-foot (9.1-meter) nominal-diameter cross-type parachute with a cloth area (reference area) of 709 square feet (65.9 square meters) was flight tested in the rocket-launched portion of the NASA Planetary Entry Parachute Program (PEPP). The test parachute was ejected from an instrumented payload by means of a mortar when the system was at a Mach number of 1.57 and a dynamic pressure of 9.7 psf. The parachute deployed to suspension-line stretch in 0.44 second with a resulting snatch-force loading of 1100 pounds (4900 newtons), Canopy inflation began at 0.58 second and a first full inflation was achieved at approximately 0.77 second. The maximum opening load occurred at 0.81 second and was 4255 pounds (18,930 newtons). Thereafter, the test item exhibited a canopy-shape instability in that the four panel arms experienced fluctuations, a 'scissoring' type of motion predominating throughout the test period. Calculated values of axial-force coefficient during the deceleration portion of the test varied between 0.35 and 1.05, with an average value of 0.69. During descent, canopy-shape variations had reduced to small amplitudes and resultant pitch-yaw angles of the payload with respect to the local vertical averaged less than 10 degrees. The effective drag coefficient, based on the vertical components of velocity and acceleration during system descent, was 0.78.
Author
Aerodynamic Coefficients; Flight Tests; Parachutes; Parachute Descent

20070031001 NASA Langley Research Center, Hampton, VA USA
Dynamic Model Investigation of Water Pressures and Accelerations Encountered During Landings of the Apollo Spacecraft
Stubbs, Sandy M.; May 11, 1967; In English; See also 19670027235; See also NASA-TN-D-3980; Silent, Color, 205ft., 5.7min.; DVD produced from the original 16mm recording
Report No(s): L-960; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

An experimental investigation was made to determine impact water pressures, accelerations, and landing dynamics of a 1/4-scale dynamic model of the command module of the Apollo spacecraft. A scaled-stiffness aft heat shield was used on the

model to simulate the structural deflections of the full-scale heat shield. Tests were made on water to obtain impact pressure data at a simulated parachute letdown (vertical) velocity component of approximately 30 ft/sec (9.1 m/sec) full scale. Additional tests were made on water, sand, and hard clay-gravel landing surfaces at simulated vertical velocity components of 23 ft/sec (7.0 m/sec) full scale. Horizontal velocity components investigated ranged from 0 to 50 ft/sec (15 m/sec) full scale and the pitch attitudes ranged from -40 degrees to 29 degrees. Roll attitudes were O degrees, 90 degrees, and 180 degrees, and the yaw attitude was 0 degrees.
Author
Apollo Spacecraft; Water Pressure; Dynamic Models; Command Modules; Spacecraft Landing; Impact Loads; Landing Simulation

20070031002 NASA Langley Research Center, Hampton, VA USA
Low Speed Dynamic Model Investigation of Apollo Command Module Configuration in the Langley Spin Tunnel
Lee, Henry A.; Burk, Sanger M., Jr.; February 15, 1967; In English; See also 19670023693; See also NASA-TN-D-3888; Silent, Black & White, 165ft., 4.5min.; DVD produced from the original 16mm recording
Report No(s): L-948; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

An investigation has been conducted in the Langley spin tunnel to determine the dynamic stability of the Apollo command module at low subsonic speeds, both with and without drogue parachutes. The investigation consisted of tests to determine (1) the dynamic stability of the command module alone, (2) the motion of the command module during the deployment of a drogue parachute, (3) the effect of various drogue-parachute configurations on the stability of the command module, and (4) the effect of modifications to the command module to prevent an apex-forward trim condition.
Author
Command Modules; Apollo Spacecraft; Dynamic Models; Wind Tunnel Tests; Drag Chutes

20070031004 NASA Langley Research Center, Hampton, VA USA
Dynamic Model Investigation of the Rough-Water Landing Characteristics of a Spacecraft
Thompson, William C.; November 1966; In English; See also 19670013952; See also NASA-TN-D-3774; Silent, Color, 135ft., 3.5min.; DVD produced from the original 16mm recording
Report No(s): L-940; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

The investigation was made to study the rough-water landing characteristics of a Gemini type of spacecraft. The investigations were made with a 1/6-scale dynamic model in a simulated sea state 4 rough water. Parachute letdown landings were simulated with the model at various yaw angles and horizontal velocities. The vertical velocity and landing attitude remained constant. The range of maximum lateral and longitudinal acceleration was from about 3-1/2g to 16g while that for the maximum normal acceleration was from lg to 15g. The range of maximum angular acceleration was from about 0 to 190 radians per second(exp 2). The smoothest behavior and the lowest angular acceleration occurred at the 90 degree yaw angle. The normal acceleration was near minimum at this condition.
Author
Gemini Spacecraft; Dynamic Models; Water Landing; Yaw; Spacecraft Landing

20070031006 NASA Langley Research Center, Hampton, VA USA
Deployment and Performance Characteristics of 5-Foot Diameter (1.5m) Attached Inflatable Decelerators from Mach Numbers 2.2-4.4
Bohon, Herman L.; Miserentino, Robert; May 1970; In English; See also 19700026642; See also NASA-TN-D5840; Silent, Color, 160ft., 4.5min.; DVD produced from the original 16mm recording
Report No(s): L-1080; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Deployment characteristics and steady-state performance data were obtained over the Mach number range from 2.2 to 4.4 and at angles of attack from 0 degrees to l0 degrees. All attached inflatable decelerator (AID) models deployed successfully and exhibited flutter-free performance after deployment. Shock loads commonly associated with inflation of parachutes during deployment were not experienced. Force and moment data and ram-air pressure data were obtained throughout the Mach number range and at angles of attack from 0 degrees to l0 degrees. The high drag coefficient of 1.14 was in good agreement

with the value predicted by the theory used in the design and indicated other AID shapes may be designed on a rational basis with a high degree of confidence.
Author
Inflatable Structures; Aerodynamic Brakes; Parachutes; Supersonic Speed; Wind Tunnel Tests; Deceleration

20070031010 NASA Langley Research Center, Hampton, VA USA
Scaled Lunar Module Jet Erosion Experiments
Land, Norman S.; Scholl, Harland F.; March 04, 1966; In English; See also 19690013268; See also NASA-TN-D-5051; Silent, Color, 185ft., 5.1min.; DVD produced from the original 16mm recording
Report No(s): L-1043; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

An experimental research program was conducted on the erosion of particulate surfaces by a jet exhaust. These experiments were scaled to represent the lunar module (LM) during landing. A conical cold-gas nozzle simulating the lunar module nozzle was utilized. The investigation was conducted within a large vacuum chamber by using gravel or glass beads as a simulated soil. The effects of thrust, descent speed, nozzle terminal height, particle size on crater size, and visibility during jet erosion were determined.
Author
Jet Exhaust; Conical Nozzles; Descent; Visibility; Soil Erosion; Lunar Landing Modules

20070031011 NASA Langley Research Center, Hampton, VA USA
Flight Tests Results from Supersonic Deployment of an 18-Foot Diameter (5.49 meter) Towed Ballute Decelerator
Mayhue, Robert J.; Eckstrom, Clinton V.; March 1969; In English; See also 19690017080; See also NASA-TM-X-1773; Silent, Color, 112ft., 3min.; DVD produced from the original 16mm recording
Report No(s): L-1045; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

A ram-air-inflated, towed ballute decelerator having a maximum frontal diameter of 18 feet (5.49 meters) was deployed during free flight at a Mach number of 3.15 and a dynamic pressure of 38.5 lb/ft(exp 2) (1843.4 newtons/m(exp 2)). Deployment and extraction of the test ballute were normal but inflation stopped about 1 second after mortar firing and produced an average plateau drag force of 1500 pounds (6.7 kN) for about 1 second. Approximately 30 percent of expected total frontal area was obtained.
Author
Flight Tests; Ballutes; Supersonic Speed; Failure

20070031012 NASA Langley Research Center, Hampton, VA USA
Flight Test of a 40-Foot Nominal Diameter Disk-Gap-Band Parachute Deployed at a Mach Number of 3.31 and a Dynamic Pressure of 10.6 Pounds per Square Foot
Eckstrom, Clinton V.; November 1969; In English; See also 19700010021; See also NASA-TM-X-1924; Silent, Color, 116ft., 3.2min.; DVD produced from the original 16mm recording
Report No(s): L-1066; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

A 40-foot-nominal-diameter (12.2 meter) disk-gap-band parachute was flight tested as part of the NASA supersonic high altitude parachute experiment (SHAPE) program. The test parachute (which included an experimental energy absorber in the attachment riser) was deployed from an instrumented payload by means of a deployment mortar when the payload was at a Mach number of 3.31 and a free-stream dynamic pressure of 10.6 pounds per square foot (508 newtons per square meter). The parachute deployed properly, the canopy inflating to a full-open condition at 1.03 seconds after mortar firing. The first full inflation of the canopy was immediately followed by a partial collapse with subsequent oscillations of the frontal area from about 30 to 75 percent of the full-open frontal area. After 1.07 seconds of operation, a large tear appeared in the cloth near the canopy apex. This tear was followed by two additional tears shortly thereafter. It was later determined that a section of

the canopy cloth was severely weakened by the effects of aerodynamic heating. As a result of the damage to the disk area of the canopy, the parachute performance was significantly reduced; however, the parachute remained operationally intact throughout the flight test and the instrumented payload was recovered undamaged.
Author
Aerodynamic Drag; Flight Tests; Parachutes; Supersonic Speed; Fabrics

19
SPACECRAFT INSTRUMENTATION AND ASTRIONICS

Includes the design, manufacture, or use of devices for the purpose of measuring, detecting, controlling, computing, recording, or processing data related to the operation of space vehicles or platforms. For related information see also *06 Avionics and Aircraft Instrumentation*; for spaceborne instruments not integral to the vehicle itself see *35 Instrumentation and Photography*; for spaceborne telescopes and other astronomical instruments see *89 Astronomy*.

19940014483 NASA Marshall Space Flight Center, Huntsville, AL, USA
ASTRO-1 to explore invisible universe
Nov 1, 1989; In English; 3 min. 55 sec. playing time, in color, with sound
Report No(s): MSFC-16527; NASA-TM-109360; NONP-NASA-VT-94-198207; No Copyright; Avail: CASI: C01, DVD

This video explains the ASTRO 1 observatory and its ten day mission aboard SpaceLab on NASA's Space Shuttle, which Marshall Space Flight Center (MSFC) and Goddard Space Flight Center (GSFC) astronomers will use to study distant stars, supernovae, and black holes. The observatory contains ultraviolet and x ray telescopes that will capture images earth-bound observatories can't, due to interference from the earth's atmosphere. The video contains footage of the instrument being loaded on the shuttle, animations of anticipated images to be captured, and scenes of the SpaceLab Control Center at MSFC.
CASI
Astro Missions (STS); Ground Stations; Loading Operations; Spaceborne Astronomy; Spaceborne Telescopes

19950004105 NASA Lewis Research Center, Cleveland, OH, USA
SAMS (space acceleration measurement system)
Feb 1, 1994; In English; 7 min. 30 sec. playing time, with sound
Report No(s): LERC-244; NASA-TM-109921; NONP-NASA-VT-93-23163; No Copyright; Avail: CASI: C01, DVD

The SAMS unit flew on STS-62 to monitor onboard accelerations that could disrupt shuttle experiments. This highly sensitive instrument can measure, condition, and record low-gravity accelerations at as many as three experiment sites simultaneously.
LeRC
Acceleration (Physics); Accelerometers; Microgravity; Onboard Equipment; Space Shuttles; Spacecraft Instruments

20
SPACECRAFT PROPULSION AND POWER

Includes main propulsion systems and components, e.g., rocket engines; and spacecraft auxiliary power sources. For related information see also *07 Aircraft Propulsion and Power, 28 Propellants and Fuels, 15 Launch Vehicles and Launch Operations*, and *44 Energy Production and Conversion*.

19940009144 NASA Stennis Space Center, Stennis Space Center, MS, USA
SSME testing at Stennis Space Center
Mar 1, 1989; In English; 9 min. 54 sec. playing time, in color, with sound
Report No(s): NASA-TM-109310; NONP-NASA-VT-93-185327; No Copyright; Avail: CASI: C01, DVD

Different views of Space Shuttle Main Engine test firings on all three test stands including closeup of engine, day, and night firings are presented.
Author (revised)
Space Shuttle Main Engine; Test Firing

19940009152 NASA Lewis Research Center, Cleveland, OH, USA
Low thrust space propulsion
Jul 1, 1987; In English; 6 min. 20 sec. playing time, in color, with sound
Report No(s): NASA-TM-109286; NONP-NASA-VT-93-185302; No Copyright; Avail: CASI: C01, DVD

An overview of low rocket engine propulsion concepts for space missions is presented. Chemical and electrical rocket engines are shown. Animation illustrates propulsion applications.

Author (revised)

Chemical Propulsion; Electric Propulsion; Engine Design; Low Thrust Propulsion; Rocket Engines; Spacecraft Propulsion

19940010756 NASA Marshall Space Flight Center, Huntsville, AL, USA
Advanced Solid Rocket Motor
Mar 1, 1989; In English; 2 min. 1 sec. playing time, in color, with sound
Report No(s): MSFC-14565; NASA-TM-109658; NONP-NASA-VT-93-190456; No Copyright; Avail: CASI: C01, DVD

This video describes the redesign and construction of the Advanced Solid Rocket Motor.

CASI

Advanced Solid Rocket Motor (STS); Solid Propellant Rocket Engines

19940010878 NASA Lewis Research Center, Cleveland, OH, USA
NASA images 10
Mar 1, 1988; In English; 29 min. playing time, in color, with sound
Report No(s): LERC-3006; NASA-TM-109419; NONP-NASA-VT-93-190216; No Copyright; Avail: CASI: C01, DVD

Electric propulsion engine research from the 1960's is looked at.

CASI

Electric Propulsion; Engines

19940011030 NASA Lewis Research Center, Cleveland, OH, USA
Futurepath 1
Apr 1, 1988; In English; 27 min. 15 sec. playing time, in color, with sound
Report No(s): LERC-3048; NASA-TM-109431; NONP-NASA-VT-93-190228; No Copyright; Avail: CASI: C01, DVD

This video looks at the photovoltaic and solar dynamic power systems being developed for Freedom and the Advanced Turboprop Program.

CASI

Photovoltaic Conversion; Solar Dynamic Power Systems; Space Station Power Supplies; Turboprop Aircraft

19940027312 NASA Lewis Research Center, Cleveland, OH, USA
Solar connection
JAN 1, 1992; In English; 14 min. 18 sec. playing time, in color, with sound
Report No(s): NASA-TM-109761; NONP-NASA-VT-94-9961; No Copyright; Avail: CASI: C01, DVD

This video explains the Work package 4, an electrical power system being developed by NASA Lewis Research Center, for use on the Space Station Freedom. It shows footage and explains steps in building and testing of actual flight hardware for Space Station Freedom. Details are given of the threat that plasma poses on cells.

CASI

Space Station Freedom; Space Station Power Supplies

19940029051 NASA Stennis Space Center, Stennis Space Center, MS, USA
ASRM testing at Stennis Space Center (proposed)
JAN 1, 1993; In English; 6 min. playing time, in color, with sound
Report No(s): NASA-TM-109795; NONP-NASA-VT-94-12923; No Copyright; Avail: CASI: C01, DVD

This summary of the Advanced Solid Rocket Motor (ASRM) program at Stennis Space Center has a specific focus on the environmental impact.
CASI
Advanced Solid Rocket Motor (STS); Environment Effects; Environment Protection; Rocket Test Facilities; Test Firing

19940029076 NASA Lewis Research Center, Cleveland, OH, USA
One fantastic ride
JAN 1, 1991; In English; 14 min. 15 sec. playing time, in color, with sound
Report No(s): LERC-91-136; NASA-TM-109828; NONP-NASA-VT-94-12956; No Copyright; Avail: CASI: C01, DVD

This video gives an overview of work being done by the Space Propulsion Technology Division at LeRC. This division conducts research on chemical, nuclear-thermal, and solar propulsion systems and propellants. Two ongoing projects highlighted are a low-thrust rocket for moving around in Earth orbit and large unmanned cargo rockets, both for use with the Space Station.
CASI
Aerospace Engineering; Chemical Propulsion; Nuclear Propulsion; Propellants; Propulsion System Configurations; Propulsion System Performance; Solar Propulsion; Spacecraft Propulsion

19950004114 NASA Lewis Research Center, Cleveland, OH, USA
Low thrust propulsion no. CV-110
May 1, 1990; In English; 10 min. playing time, in color, with sound
Report No(s): LERC-CV-110; NASA-TM-109932; NONP-NASA-VT-94-23169; No Copyright; Avail: CASI: C01, DVD

This video presents an overview of low thrust rocket engine propulsion concepts for space missions. Chemical and electrical rocket engines are shown. Animation illustrates various propulsion applications.
LeRC
Low Thrust Propulsion; Rocket Engines; Spacecraft Propulsion

24
COMPOSITE MATERIALS

Includes physical, chemical, and mechanical properties of laminates and other composite materials.

19940010872 NASA, Washington, DC, USA
Better airplane wings
Nov 1, 1989; In English; 3 min. 23 sec. playing time, in color, with sound
Report No(s): ASR-251; NASA-TM-109446; NONP-NASA-VT-93-190243; No Copyright; Avail: CASI: C01, DVD

The video discusses the new composites that will be used to create lighter yet stronger aircraft wings.
CASI
Aircraft Design; Composite Materials; Composite Structures; NASA Programs; Wings

19940029244 NASA Lewis Research Center, Cleveland, OH, USA
National aerospace plane
Jul 1, 1990; In English; 5 min. 20 sec. playing time, in color, with sound
Report No(s): LERC-4002; NASA-TM-109843; NONP-NASA-VT-94-13533; No Copyright; Avail: CASI: C01, DVD

This video concentrates on materials being developed and tested at LeRC for possible use in NASP.
CASI
Aerospace Planes; Aircraft Construction Materials; National Aerospace Plane Program; Spacecraft Construction Materials

20070030949 NASA Langley Research Center, Hampton, VA USA
Thermo-Lag Ablation Tests
January 08, 1960; In English; Silent, Color, 1130ft., 31min.; DVD produced from the original 16mm recording
Report No(s): L-516; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Thermo-lag, an ablation material made by Emerson Electric Co., was tested in the preflight jet at Wallops Island, VA. Variables included temperature and mach number.
Derived from text
Ablative Materials; Temperature Effects; High Temperature Tests

25
INORGANIC, ORGANIC AND PHYSICAL CHEMISTRY

Includes the analysis, synthesis, and use of inorganic and organic compounds; combustion theory; electrochemistry; and photochemistry. For related information see category *34 Fluid Dynamics and Thermodynamics*. For astrochemistry see category *90 Astrophysics*.

19940027377 NASA Lewis Research Center, Cleveland, OH, USA
Solid surface
Dec 1, 1992; In English; 7 min. 5 sec. playing time, in color, with sound
Report No(s): LERC-92-168A; NASA-TM-109746; NONP-NASA-VT-94-9946; No Copyright; Avail: CASI: C01, DVD

This video describes the development of the Solid Surface Combustion Experiment (SSCE) by researchers at NASA LeRC. The experiment studies fire spreading over a small solid fuel sample subjected to microgravity conditions in Earth orbit. Buoyant convection, which determines the heat transfer in fires on Earth, disappears in microgravity; hence, this experiment will help researchers understand how fires act on Earth.
CASI
Combustion Physics; Fires; Flame Propagation; Heat Transfer; Microgravity; Solid Surfaces

26
METALS AND METALLIC MATERIALS

Includes physical, chemical, and mechanical properties of metals and metallic materials; and metallurgy.

19940009143 NASA Marshall Space Flight Center, Huntsville, AL, USA
Mid-deck experiments, STS-26
Sep 1, 1988; In English; 3 min. 37 sec. playing time, in color, with sound
Report No(s): MSFC-13384; NASA-TM-109308; NONP-NASA-VT-93-185326; No Copyright; Avail: CASI: C01, DVD

Phase partitioning, ISO electric focusing, automated directional solidification furnace, mesoscale experiment, and others are explained.
Author (revised)
Space Shuttle Payloads; Spaceborne Experiments

20090025414 NASA Goddard Space Flight Center, Greenbelt, MD, USA
Optical Microscopy Techniques to Inspect for Metallic Whiskers
Brusse, Jay A.; [2006]; In English; Original contains color illustrations; Copyright; Avail: CASI: C01, DVD

Metal surface finishes of tin, zinc and cadmium are often applied to electronic components, mechanical hardware and other structures. These finishes sometimes unpredictably may form metal whiskers over periods that can take from hours to months or even many years. The metal whiskers are crystalline structures commonly having uniform cross sectional area along their entire length. Typical whisker dimensions are nominally on the order of only a few microns (um) across while their lengths can extend from a few microns to several millimeters. Metal whiskers pose a reliability hazard to electronic systems primarily as an electrical shorting hazard. The extremely narrow dimensions of metal whiskers can make observation with optical techniques very challenging. The videos herein were compiled to demonstrate the complexities associated with optical microscope inspection of electronic and mechanical components and assemblies for the presence or absence of metal whiskers. The importance of magnification, light source and angle of illumination play critical roles in being able to detect metal whiskers when present. Furthermore, it is demonstrated how improper techniques can easily obscure detection. It is hoped that these videos will improve the probability of detecting metal whiskers with optical inspection techniques.
Author
Inspection; Metal Surfaces; Microscopy; Optical Microscopes; Whisker Composites

27
NONMETALLIC MATERIALS

Includes physical, chemical, and mechanical properties of plastics, elastomers, lubricants, polymers, textiles, adhesives, and ceramic materials. For composite materials see *24 Composite Materials*.

19940010840 NASA, Washington, DC, USA

Restoring Miss Liberty

Apr 1, 1985; In English; 4 min. 25 sec. playing time, in color, with sound

Report No(s): ASR-237; NASA-TM-109605; NONP-NASA-VT-93-190403; No Copyright; Avail: CASI: C01, DVD

This video shows how a NASA inorganic coating for metal was used on the Statue of Liberty during it recent refurbishment.

CASI

Inorganic Coatings; Metal Coatings; Protective Coatings; Restoration

20070030959 National Advisory Committee for Aeronautics. Langley Aeronautical Lab., Langley Field, VA USA

Experimental Ablation Cooling

Bond, Aleck C.; Rashis, Bernard; Levin, L. Ross; February 07, 1958; In English; See also 19930090170; See also NACA-RM-L58E15a; Silent, Black & White, 330 feet, 9 minutes; DVD produced from the original 16mm recording

Report No(s): L-296; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)

ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

The film shows ablation tests on Teflon, nylon, a 27 percent phenolic resin, Haveg Rocketon, and graphite. Teflon hemisphere-shaped and flat face noses were tested with laboratory-scale ceramic-heated, pilot-model ceramic-heated, and electric-arc-powered air jets. Nylon hemisphere-shaped noses were tested with laboratory-scale ceramic-heated and electric-arc-powered air jets. Phenolic resin hemisphere-shaped noses were tested with laboratory-scaled ceramic-heated air jets. Haveg Rocketon and graphite hemisphere-shaped noses were tested with electric-arc-powered air jets.

Derived from text

Ablation; Ablative Materials; Cooling; High Temperature Tests; Ablative Nose Cones; Aerodynamic Heating

29
SPACE PROCESSING

Includes space-based development of materials, compounds, and processes for research or commercial application. Also includes the development of materials and compounds in simulated reduced-gravity environments. For legal aspects of space commercialization see *84 Law, Political Science and Space Policy*.

19940010807 NASA Johnson Space Center, Houston, TX, USA

STS-26 SSIP briefing

Jan 1, 1988; In English; 6 min. 30 sec. playing time, in color, with sound

Report No(s): JSC-1048; NASA-TM-109556; NONP-NASA-VT-93-190354; No Copyright; Avail: CASI: C01, DVD

Lloyd Bruce, student experimenter, explains his Titanium Grain Formation Experiment. Dr. Charles Scaife demonstrates Richard Cavoli's Crystal Membrane Experiment.

CASI

Crystal Structure; Grain Boundaries; Space Shuttle Missions; Spaceborne Experiments; Titanium

19940010922 NASA Johnson Space Center, Houston, TX, USA

STS-26 protein growth (PCG) experiment

Jun 1, 1989; In English; 2 min. playing time, in color, with sound

Report No(s): JSC-CL-1232; NASA-TM-109533; NONP-NASA-VT-93-190330; No Copyright; Avail: CASI: C01, DVD

Astronauts Nelson and Lounge are shown working on the Protein Crystal Growth experiment aboard the Space Shuttle.

CASI

Protein Crystal Growth; Space Processing; Spaceborne Experiments

19940027378 NASA Lewis Research Center, Cleveland, OH, USA
Defying gravity
JAN 1, 1993; In English; 7 min. playing time, in color, with sound
Report No(s): LERC-93-215; NASA-TM-109747; NONP-NASA-VT-94-9947; No Copyright; Avail: CASI: C01, DVD

This video examines microgravity research that is ongoing at LeRC. The video details the development of the Multiple Axis Space Test and its use in training the Mercury 7 astronauts. The LeRC drop tower is discussed, and a comparison is made between research being done at LeRC and rides anyone can experience at the nearby Cedar Point Amusement Park.
CASI
Astronauts; Education; Gravitation; Microgravity

19950004106 NASA Lewis Research Center, Cleveland, OH, USA
In-situ monitoring of crystal growth using MEPHISTO
Feb 1, 1994; In English; 8 min. 30 sec. playing time, with sound
Report No(s): LERC-246; NASA-TM-109922; NONP-NASA-VT-94-23164; No Copyright; Avail: CASI: C01, DVD

This experiment flew on STS-62 and is the continuation of a collaborative US-French study of the process of crystal formation. Knowledge from this experiment will support the development of techniques to grow higher quality semiconductor crystals on Earth.
LeRC
Crystal Growth; In Situ Measurement; Semiconductors (Materials); Space Shuttle Payloads; Spaceborne Experiments

19950004113 NASA Lewis Research Center, Cleveland, OH, USA
TES (Thermal Energy Storage) video news release
Feb 1, 1994; In English; 3 min. 30 sec. playing time, with sound
Report No(s): LERC-243; NASA-TM-109919; NONP-NASA-VT-94-23161; No Copyright; Avail: CASI: C01, DVD

TES is an in-space technology experiment that flew on STS-62. Its intent is to investigate the behavior of two different thermal energy storage materials as they undergo repeated melting and freezing in the microgravity environment.
LeRC
Heat Storage; Spaceborne Experiments

19950004151 NASA Lewis Research Center, Cleveland, OH, USA
IDGE (Isothermal Dendritic Growth Experiment)
Feb 1, 1994; In English; 10 min. 55 sec. playing time, with sound
Report No(s): LERC-235; NASA-TM-109929; NONP-NASA-VT-94-23166; No Copyright; Avail: CASI: C01, DVD

The Isothermal Dendritic Growth Experiment (IDGE) flew on STS-62 to study the microscopic, tree-like structures (dendrites) that form within metals as they solidify from molten materials. The size, shape, and orientation of these dendrites affect the strength and usefulness of metals. Data from this experiment will be used to test and improve the mathematical models that support the industrial production of metals.
LeRC
Crystal Growth; Dendritic Crystals; Isothermal Processes; Mathematical Models; Metals; Space Shuttle Payloads

19970005007 NASA Johnson Space Center, Houston, TX USA
Tank Pressure Control Experiment: Thermal Phenomena in Microgravity. Tape 2 of 4
Feb. 20, 1996; In English; 40 min. playing time, in color, with sound
Report No(s): NASA-TP-3564/Videotape 2 of 4; NAS 1.60:3564/Videotape 2 of 4; W/O-472411-Tape-2 of 4; NONP-NASA-VT-97-1997005938; No Copyright; Avail: CASI: C01, DVD

The report presents the results of the flight experiment Tank Pressure Control Experiment/Thermal Phenomena (TPCE/TP) performed in the microgravity environment of the space shuttle. TPCE/TP, flown on the Space Transportation System STS-52, was a second flight of the Tank Pressure Control Experiment (TPCE). The experiment used Freon 113 at near saturation conditions. The test tank was filled with liquid to about 83 percent by volume. The experiment consisted of 21 tests. Each test generally started with a heating phase to increase the tank pressure and to develop temperature stratification in the fluid, followed by a fluid mixing phase for the tank pressure reduction and fluid temperature equilibration. The heating phase provided pool boiling data from large (relative to bubble sizes) heating surfaces (0.1046 m by 0.0742 m) at low heat fluxes

(0.23 to 1.16 kW/m(exp 2)). The system pressure and the bulk liquid subcooling varied from 39 to 78 kPa and 1 to 3 deg C, respectively. The boiling process during the entire heating period, as well a jet-induced mixing process for the first 2 min. of the mixing period, was also recorded on video. Analyses of data from the two flight experiments (TPCE and TPCE/TP) and their comparison with the results obtained in drop tower experiments suggest that as Bond number approaches zero the flow pattern produced by an axial jet and the mixing time can be predicted by the Weber number. This is video 2 of 4.
CASI
Tanks (Containers); Bubbles; Flow Distribution; Fluid Jets; Freon; Jet Mixing Flow; Microgravity; Pressure Reduction; Heat Flux

19970005013 NASA Johnson Space Center, Houston, TX USA
Tank Pressure Control Experiment: Thermal Phenomena in Microgravity. Tape 4 of 4
Feb. 20, 1996; In English; 32 min. playing time, in color, with sound
Report No(s): NASA-TP-3564/Videotape 4 of 4; NAS 1.60:3564/Videotape 4 of 4; W/O-472411-Tape-4 of 4; NONP-NASA-VT-97-1997005940; No Copyright; Avail: CASI: C01, DVD

The report presents the results of the flight experiment Tank Pressure Control Experiment/Thermal Phenomena (TPCE/TP) performed in the microgravity environment of the space shuttle. TPCE/TP, flown on the Space Transportation System STS-52, was a second flight of the Tank Pressure Control Experiment (TPCE). The experiment used Freon 113 at near saturation conditions. The test tank was filled with liquid to about 83 percent by volume. The experiment consisted of 21 tests. Each test generally started with a heating phase to increase the tank pressure and to develop temperature stratification in the fluid, followed by a fluid mixing phase for the tank pressure reduction and fluid temperature equilibration. The heating phase provided pool boiling data from large (relative to bubble sizes) heating surfaces (0.1046 m by 0.0742 m) at low heat fluxes (0.23 to 1.16 kW/m(exp 2)). The system pressure and the bulk liquid subcooling varied from 39 to 78 kPa and 1 to 3 deg C, respectively. The boiling process during the entire heating period, as well a jet-induced mixing process for the first 2 min. of the mixing period, was also recorded on video. Analyses of data from the two flight experiments (TPCE and TPCE/TP) and their comparison with the results obtained in drop tower experiments suggest that as Bond number approaches zero the flow pattern produced by an axial jet and the mixing time can be predicted by the Weber number. This is video 4 of 4.
CASI
Tanks (Containers); Bubbles; Flow Distribution; Fluid Jets; Freon; Jet Mixing Flow; Microgravity; Pressure Reduction; Heat Flux

19970005031 NASA Johnson Space Center, Houston, TX USA
Tank Pressure Control Experiment: Thermal Phenomena in Microgravity. Tape 1 of 4
Feb. 20, 1996; In English; 1 hr. 22 min. playing time, in color, with sound
Report No(s): NASA-TP-3564/Videotape 1 of 4; NAS 1.60:3564/Videotape 1 of 4; W/O-472411-Tape-1 of 4; NONP-NASA-VT-97-1997005937; No Copyright; Avail: CASI: C01, DVD

The report presents the results of the flight experiment Tank Pressure Control Experiment/Thermal Phenomena (TPCE/TP) performed in the microgravity environment of the space shuttle. TPCE/TP, flown on the Space Transportation System STS-52, was a second flight of the Tank Pressure Control Experiment (TPCE). The experiment used Freon 113 at near saturation conditions. The test tank was filled with liquid to about 83 percent by volume. The experiment consisted of 21 tests. Each test generally started with a heating phase to increase the tank pressure and to develop temperature stratification in the fluid, followed by a fluid mixing phase for the tank pressure reduction and fluid temperature equilibration. The heating phase provided pool boiling data from large (relative to bubble sizes) heating surfaces (0.1046 m by 0.0742 m) at low heat fluxes (0.23 to 1.16 kW/m(exp 2)). The system pressure and the bulk liquid subcooling varied from 39 to 78 kPa and 1 to 3 deg C, respectively. The boiling process during the entire heating period, as well a jet-induced mixing process for the first 2 min. of the mixing period, was also recorded on video. Analyses of data from the two flight experiments (TPCE and TPCE/TP) and their comparison with the results obtained in drop tower experiments suggest that as Bond number approaches zero the flow pattern produced by an axial jet and the mixing time can be predicted by the Weber number. This is video 1 of 4.
CASI
Tanks (Containers); Bubbles; Flow Distribution; Fluid Jets; Freon; Jet Mixing Flow; Microgravity; Pressure Reduction; Heat Flux

19970005057 NASA Johnson Space Center, Houston, TX USA

Tank Pressure Control Experiment: Thermal Phenomena in Microgravity. Tape 3 of 4

Feb. 20, 1996; In English; 1 hr. 30 min. playing time, in color, with sound

Report No(s): NASA-TP-3564/Videotape 3 of 4; NAS 1.60:3564/Videotape 3 of 4; W/O-472411-Tape-3 of 4; NONP-NASA-VT-97-1997005939; No Copyright; Avail: CASI: C01, DVD

The report presents the results of the flight experiment Tank Pressure Control Experiment/Thermal Phenomena (TPCE/TP) performed in the microgravity environment of the space shuttle. TPCE/TP, flown on the Space Transportation System STS-52, was a second flight of the Tank Pressure Control Experiment (TPCE). The experiment used Freon 113 at near saturation conditions. The test tank was filled with liquid to about 83 percent by volume. The experiment consisted of 21 tests. Each test generally started with a heating phase to increase the tank pressure and to develop temperature stratification in the fluid, followed by a fluid mixing phase for the tank pressure reduction and fluid temperature equilibration. The heating phase provided pool boiling data from large (relative to bubble sizes) heating surfaces (0.1046 m by 0.0742 m) at low heat fluxes (0.23 to 1.16 kW/m(exp 2)). The system pressure and the bulk liquid subcooling varied from 39 to 78 kPa and 1 to 3 deg C, respectively. The boiling process during the entire heating period, as well a jet-induced mixing process for the first 2 min. of the mixing period, was also recorded on video. Analyses of data from the two flight experiments (TPCE and TPCE/TP) and their comparison with the results obtained in drop tower experiments suggest that as Bond number approaches zero the flow pattern produced by an axial jet and the mixing time can be predicted by the Weber number. This is video 3 of 4.

CASI

Tanks (Containers); Bubbles; Flow Distribution; Fluid Jets; Freon; Jet Mixing Flow; Microgravity; Pressure Reduction; Heat Flux

31
ENGINEERING (GENERAL)

Includes general research topics related to engineering and applied physics, and particular areas of vacuum technology, industrial engineering, cryogenics, and fire prevention. For specific topics in engineering see *categories 32 through 39*.

19940011046 NASA, Washington, DC, USA

Building a lunar base

Jun 1, 1986; In English; 4 min. 8 sec. playing time, in color, with sound

Report No(s): ASR-240; NASA-TM-109674; NONP-NASA-VT-93-190472; No Copyright; Avail: CASI: C01, DVD

This video looks at the testing of lunar materials as a possible building material for lunar bases.

CASI

Construction Materials; Lunar Bases; Lunar Rocks; Lunar Soil; Materials Tests

32
COMMUNICATIONS AND RADAR

Includes radar; radio, wire, and optical communications; land and global communications; communications theory. For related information see also 04 Aircraft Communications and Navigation; and *17 Space Communications, Spacecraft Communications, Command and Tracking*; for search and rescue, see *03 Air Transportation and Safety*; and *16 Space Transportation and Safety*.

19940010819 NASA Goddard Space Flight Center, Greenbelt, MD, USA

COBE video news

Oct 1, 1989; In English; 3 min. 46 sec. playing time, in color, with sound

Report No(s): GSFC-S-20; NASA-TM-109598; NONP-NASA-VT-93-190396; No Copyright; Avail: CASI: C01, DVD

This video was produced for hand-out to both local and national broadcast media as a prelude to the launch of the Cosmic Background Explorer. The tape consists of short clips with multi-channel sound to facilitate news media editing.

CASI

Cosmic Background Explorer Satellite; News Media; Spacecraft Launching

19950022753 NASA, Washington, DC, USA

High resolution microwave survey

Scheibe, J., editor; Sep 18, 1992; In English; 12 min. 45 sec. playing time, in color, with sound

Report No(s): NASA-TM-110566; AAV-1432; NONP-NASA-VT-95-46001; No Copyright; Avail: CASI: C01, DVD

Research information on radar tracking systems, computer animation of star formation, footage of solar systems, and desert radar equipment and research facilities are contained in this video. Frank Drake, President of SETI (Search for Extraterrestrial Intelligence) Institute is interviewed along with Jill Tarter, NASA's High Resolution Microwave Survey Project Scientist.

CASI

Computer Animation; High Resolution; Microwaves; Radar Tracking; Radio Astronomy; Radio Communication

33
ELECTRONICS AND ELECTRICAL ENGINEERING

Includes development, performance, and maintainability of electrical/electronic devices and components; related test equipment; and microelectronics and integrated circuitry. for related information see also *60 Computer Operations and Hardware*; and *76 Solid-State Physics*. For communications equipment and devices see *32 Communications and Radar*.

19940029077 NASA Lewis Research Center, Cleveland, OH, USA

Space electronics video: Research for today and tomorrow

JAN 1, 1991; In English; 7 min. 15 sec. playing time, in color, with sound

Report No(s): LERC-91-135; NASA-TM-109829; NONP-NASA-VT-94-12957; No Copyright; Avail: CASI: C01, DVD

This video gives an overview of work being done by the different branches of the Space Electronics Division at LeRC. The video highlights electron beam, solid state, high speed circuit design and, high frequency communication research.

CASI

Electron Beams; Electronic Equipment; NASA Programs; Solid State Devices

34
FLUID MECHANICS AND THERMODYNAMICS

Includes fluid dynamics and kinematics and all forms of heat transfer; boundary layer flow; hydrodynamics; hydraulics; fluidics; mass transfer and ablation cooling. For related information see also *02 Aerodynamics*.

19940010773 NASA Ames Research Center, Moffett Field, CA, USA

The 1989 computational fluid dynamics highlights

JAN 1, 1989; In English; 24 min. playing time, in color, with sound

Report No(s): ARC-AAV-1289; NASA-TM-109635; NONP-NASA-VT-93-190433; No Copyright; Avail: CASI: C01, DVD

This document presents highlights of 1989's CFD graphics, which show shuttle flight problems, F-18 flows, artificial heart, and rotorstrator with more complex blades.

CASI

Computational Fluid Dynamics; Numerical Flow Visualization; Scientific Visualization

19940010779 NASA, Washington, DC, USA

Riblets: New speed technology

Mar 1, 1987; In English; 3 min. 40 sec. playing time, in color, with sound

Report No(s): ASR-243; NASA-TM-109641; NONP-NASA-VT-93-190439; No Copyright; Avail: CASI: C01, DVD

This document discusses a new drag reduction technology called riblets, which may have helped win yachting's America's Cup.

CASI

Boundary Layer Control; Drag Reduction; Hydrodynamics; Riblets

19940010958 NASA Ames Research Center, Moffett Field, CA, USA
The 1988 computational fluid dynamics highlights
JAN 1, 1988; In English; 15 min. playing time, in color, with sound
Report No(s): AAV-1231; NASA-TM-109645; NONP-NASA-VT-93-190443; No Copyright; Avail: CASI: C01, DVD

This video highlights the 1988 CFD graphics which show zero gravity phenomena, boundary layers, aeroelasticity, rotor blades, stators, jet ground effects, the F-18, flow about the shuttle, hypersonic flow, and flow in an artificial heart.
CASI
Computational Fluid Dynamics; Computer Graphics; Computerized Simulation; Fluid Flow; Numerical Flow Visualization; Scientific Visualization

19940027380 NASA Lewis Research Center, Cleveland, OH, USA
Thermocapillary convection in evaporating sessile drops
JAN 1, 1986; In English; 28 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-109758; NONP-NASA-VT-94-9958; No Copyright; Avail: CASI: C01, DVD

The purpose of this video is to understand the effects of surface tension on fluid convection. The fluid system chosen is the liquid sessile droplet to show the importance in single crystal growth, the spray drying and cooling of metal, and the advance droplet radiators of the space stations radiators. A cross sectional representation of a hemispherical liquid droplet under ideal conditions is used to show internal fluid motion. A direct simulation of buoyancy-dominant convection and surface tension-dominant convection is graphically displayed. The clear differences between two mechanisms of fluid transport, thermocapillary convection, and bouncy dominant convection is illustrated.
CASI
Capillary Flow; Convection; Convective Heat Transfer; Cooling Systems; Crystal Growth; Drops (Liquids); Drying; Evaporation; Single Crystals; Spacecraft Radiators; Sprayers

19950004104 NASA Lewis Research Center, Cleveland, OH, USA
ZENO: A critical fluid light scattering experiment
Feb 1, 1994; In English; 7 min. 25 sec. playing time, with sound
Report No(s): LERC-256; NASA-TM-109920; NONP-NASA-VT-94-23162; No Copyright; Avail: CASI: C01, DVD

The ZENO experiment flew on the STS-62, it is designed to verify intriguing, but previously untested, theories in fluid physics. These theories attempt to describe dramatic changes in the properties of fluids near the critical temperature at which the vapor and liquid forms co-exist.
LeRC
Critical Temperature; Fluids; Light Scattering; Liquid Phases; Physics; Spaceborne Experiments; Vapor Phases

19950009484 NASA Langley Research Center, Hampton, VA, USA
Two-dimensional scramjet inlet unstart model: Wind-tunnel blockage and actuation systems test
Holland, Scott D.; Nov 1, 1994; In English; 10 min. 52 sec. playing time, in color
Contract(s)/Grant(s): RTOP 763-23-35-08
Report No(s): NASA-TM-109984; NONP-NASA-SUPPL-VT-94-32020; No Copyright; Avail: CASI: C01, DVD

This supplement to NASA TM 109152 shows the Schlieren video (10 min. 52 sec., color) of the external flow field and a portion of the internal flow field of a two-dimensional scramjet inlet model in the NASA Langley 20-Inch Mach 6 Tunnel. The intent of the overall test program is to study (both experimentally and computationally) the dynamics of the inlet unstart; this (phase I) effort examines potential wind-tunnel blockage issues related to model sizing and the adequacy of the actuation systems in accomplishing the start and unstart. The model is equipped with both a moveable cowl and aft plug. Windows in the inlet sidewalls allow limited optical access to the internal shock structure. In the video, flow is from right to left, and the inlet is oriented inverted with respect to flight, i.e., with the cowl on top. The plug motion is obvious because the plug is visible in the aft window. The cowl motion, however, is not as obvious because the cowl is hidden from view by the inlet sidewall. The end of the cowl actuator arm, however, becomes visible above the inlet sidewalls between the windows when the cowl is up (see figure 1b of the primary document). The model is injected into the tunnel and observed though several actuation sequences with two plug configurations over a range of unit freestream Reynolds number at a nominal freestream Mach number of 6. The framing rate and shutter speed of the camera were too slow to fully capture the dynamics of the unstart but

did prove sufficient to identify inlet start and unstart. This series of tests indicated that the model was appropriately sized for this facility and identified operability limits required first to allow the inlet to start and second to force the unstart.
Author
Engine Inlets; Flow Distribution; Flow Visualization; Free Flow; Hypersonic Inlets; Hypersonic Wind Tunnels; Inlet Flow; Schlieren Photography; Supersonic Combustion Ramjet Engines; Wind Tunnel Tests

20070030953 National Advisory Committee for Aeronautics. Langley Aeronautical Lab., Langley Field, VA USA
Flow Studies of Decelerators at Supersonic Speeds
March 26, 1959; In English; Silent, Black & White, 350ft., 10min.; DVD produced from the original 16mm recording
Report No(s): L-445; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)
Wind tunnel tests recorded the effect of decelerators on flow at various supersonic speeds. Rigid parachute models were tested for the effects of porosity, shroud length, and number of shrouds. Flexible model parachutes were tested for effects of porosity and conical-shaped canopy. Ribbon dive brakes on a missile-shaped body were tested for effect of tension cable type and ribbon flare type. The final test involved a plastic sphere on riser lines.
CASI
Wind Tunnel Tests; Porosity; Supersonic Speed; Drag Chutes; Supersonic Flow

35
INSTRUMENTATION AND PHOTOGRAPHY

Includes remote sensors; measuring instruments and gages; detectors; cameras and photographic supplies; and holography. For aerial photography see *43 Earth Resources and Remote Sensing*. For related information see also *06 Avionics and Aircraft Instrumentation*; and *19 Spacecraft Instrumentation and Astrionics*.

19940010774 NASA, Washington, DC, USA
Space Station Freedom
Jul 1, 1990; In English; 3 min. 30 sec. playing time, in color, with sound
Report No(s): ASR-253; NASA-TM-109636; NONP-NASA-VT-93-190434; No Copyright; Avail: CASI: C01, DVD
This video presents great model photography along with astronaut activity as practiced in mockup.
CASI
Astronaut Training; Space Station Freedom; Spacecraft Models

19940010831 NASA Johnson Space Center, Houston, TX, USA
STS-30 crew photo in building 4
Apr 1, 1989; In English; 7 min. 20 sec. playing time, in color, with sound
Report No(s): JSC-1103; NASA-TM-109573; NONP-NASA-VT-93-190371; No Copyright; Avail: CASI: C01, DVD
This video shows the Space Shuttle crew learning how to use the photography equipment they will have on board the Space Shuttle.
CASI
Astronaut Training; Photographic Equipment; Space Shuttle Orbiters; Spaceborne Photography

19940010843 NASA Johnson Space Center, Houston, TX, USA
STS-32 IMAX camera training
Nov 1, 1989; In English; 10 min. 30 sec. playing time, in color, with sound
Report No(s): JSC-1131; NASA-TM-109567; NONP-NASA-VT-93-190365; No Copyright; Avail: CASI: C01, DVD
The crew is shown learning how to load the IMAX camera and use it. This training takes place on the middeck of the CCT.
CASI
Astronaut Training; Cameras; Space Shuttle Missions

19940010901 NASA Johnson Space Center, Houston, TX, USA
STS-29 IMAX camera audio class FFT
Mar 1, 1989; In English; 15 min. 30 sec. playing time, in color, with sound
Report No(s): JSC-1096; NASA-TM-109543; NONP-NASA-VT-93-190340; No Copyright; Avail: CASI: C01, DVD

The astronauts are shown how to work the audio portion of the IMAX camera system.
CASI
Astronaut Training; Astronauts; Audio Equipment; Cameras; Space Shuttle Missions

19940010907 NASA Johnson Space Center, Houston, TX, USA
STS-29 crew IMAX camera training
Jan 1, 1989; In English; 16 min. playing time, in color, with sound
Report No(s): JSC-1088; NASA-TM-109546; NONP-NASA-VT-93-190343; No Copyright; Avail: CASI: C01, DVD

The crew is shown learning to use the IMAX camera system.
CASI
Astronaut Training; Cameras; Education; Onboard Equipment; Space Shuttles; Spacecrews

19940010924 NASA Johnson Space Center, Houston, TX, USA
STS-34 Arriflex and IMAX camera training
Aug 1, 1989; In English; 19 min. 17 sec. playing time, in color, with sound
Report No(s): JSC-1120; NASA-TM-109467; NONP-NASA-VT-93-190264; No Copyright; Avail: CASI: C01, DVD

The STS-34 crew is shown being taught how to use the 16-mm Arriflex camera.
CASI
Cameras; Spaceborne Photography; Spacecrews

19940010932 NASA Johnson Space Center, Houston, TX, USA
STS-27 crew photo training and habitation procedures
Nov 1, 1988; In English; 15 min. playing time, in color, with sound
Report No(s): JSC-1080; NASA-TM-109553; NONP-NASA-VT-93-190351; No Copyright; Avail: CASI: C01, DVD

The crew is shown studying photography equipment they will carry into orbit, and how to take the best shots possible.
CASI
Astronaut Training; Photographic Equipment; Photography

19940010990 NASA Johnson Space Center, Houston, TX, USA
STS-35 payload specialists Durrance and Parise: 70mm photo training and cabin familiarization
Apr 1, 1990; In English; 14 min. playing time, in color, with sound
Report No(s): JSC-1160; NASA-TM-109499; NONP-NASA-VT-93-190296; No Copyright; Avail: CASI: C01, DVD

This video shows astronauts Durrance and Parise being trained with photography equipment.
CASI
Astronaut Training; Astronauts; Photographic Equipment; Space Flight Training; Space Shuttle Missions; Space Transportation System Flights

19940010999 NASA Johnson Space Center, Houston, TX, USA
Johnson Space Center and downtown Houston, Texas aerials
Aug 1, 1988; In English; 7 min. 5 sec. playing time, in color, with sound
Report No(s): JSC-CL-1217; NASA-TM-109522; NONP-NASA-VT-93-190319; No Copyright; Avail: CASI: C01, DVD

This video shows various aerial shots of the NASA JSC. Views of downtown Houston, TX, are also provided.
CASI
Aerial Photography; Houston (TX); Research Facilities

19940011319 NASA Johnson Space Center, Houston, TX, USA
STS-31 crew Linof, Arriflex, and IMAX camera training
Mar 1, 1990; In English; 29 min. playing time, in color, with sound
Report No(s): JSC-1155; NASA-TM-109485; NONP-NASA-VT-93-190282; No Copyright; Avail: CASI: C01, DVD

The crew is shown on the roof of Bldg. 1 at the NASA Johnson Space Center learning about the Linof camera system. The crew is shown taking pictures with the Linof camera from the roof.
CASI
Astronaut Training; Cameras

19970035033 NASA Lewis Research Center, Cleveland, OH USA
Improved Optical Techniques for Studying Sonic and Supersonic Injection into Mach 3 Flow
Buggele, Alvin E.; Seasholtz, Richard G.; Sep. 1997; 21 pp.; In English; 42nd International Society for Optical Engineering Conference, 27 Jul. - 1 Aug. 1997, San Diego, CA, USA; See also 20090006928; Original contains color illustrations
Contract(s)/Grant(s): RTOP 953-74-40
Report No(s): NASA-TM-107533; NAS 1.15:107533; E-10853; NONP-NASA-VT-1997067113; No Copyright; Avail: CASI: C01, DVD
ONLINE: http://hdl.handle.net/2060/19970035033

Filtered Rayleigh Scattering and shadowgraph flow visualization were used to characterize the penetration of helium or moist air injected transversely at several pressures into a Mach 3 flow in the NASA Lewis 3.81 inch by 10 inch continuous flow supersonic wind tunnel. This work is in support of the LOX (liquid oxygen) Augmented Nuclear Thermal Rocket program. The present study used an injection-seeded, frequency doubled ND:YAG pulsed laser to illuminate a transverse section of the injectant plume. Rayleigh scattered light was passed through an iodine absorption cell to suppress stray laser light and was imaged onto a cooled CCD camera. The scattering was based on condensation of water vapor in the injectant flow. Results are presented for various configurations of sonic and supersonic injector designs mounted primarily in the floor of the tunnel. Injectors studied include a single 0.25 inch diameter hole, five 0. 1 12 inch diameter holes on 0. 177 inch spacing, and a 7 deg. half angle wedge. High speed shadowgraph flow visualization images were obtained with several video camera systems. Roof and floor static pressure data are presented several ways for the three configurations of injection designs with and without helium and/or air injection into Mach 3 flow. A 12 min. video supplement is also included.
Author
Rayleigh Scattering; Shadowgraph Photography; Flow Visualization; Fluid Injection; Helium; Injectors; Fuel Injection; Supersonic Flow; Wind Tunnel Tests; Water Vapor; Continuum Flow; Pulsed Lasers

19970035939 TRW Space and Electronics Group, Redondo Beach, CA USA
PMMW Camera TRP, Phase 1
1997; 32 pp.; In English
Contract(s)/Grant(s): NCC1-196
Report No(s): NASA-CR-205700; NAS 1.26:205700; NONP-NASA-VT-1997057310; No Copyright; Avail: CASI: C01, DVD
ONLINE: http://hdl.handle.net/2060/19970035939

Passive millimeter wave (PMMW) sensors have the ability to see through fog, clouds, dust and sandstorms and thus have the potential to support all-weather operations, both military and commercial. Many of the applications, such as military transport or commercial aircraft landing, are technologically stressing in that they require imaging of a scene with a large field of view in real time and with high spatial resolution. The development of a low cost PMMW focal plane array camera is essential to obtain real-time video images to fulfill the above needs. The overall objective of this multi-year project (Phase 1) was to develop and demonstrate the capabilities of a W-band PMMW camera with a microwave/millimeter wave monolithic integrated circuit (MMIC) focal plane array (FPA) that can be manufactured at low cost for both military and commercial applications. This overall objective was met in July 1997 when the first video images from the camera were generated of an outdoor scene. In addition, our consortium partner McDonnell Douglas was to develop a real-time passive millimeter wave flight simulator to permit pilot evaluation of a PMMW-equipped aircraft in a landing scenario. A working version of this simulator was completed. This work was carried out under the DARPA-funded PMMW Camera Technology Reinvestment Project (TRP), also known as the PMMW Camera DARPA Joint Dual-Use Project. In this final report for the Phase 1 activities, a year by year description of what the specific objectives were, the approaches taken, and the progress made is presented,

followed by a description of the validation and imaging test results obtained in 1997.
Derived from text
Cameras; Spatial Resolution; Millimeter Waves; Microwaves; Imaging Techniques; High Resolution

20090017635 NASA Marshall Space Flight Center, Huntsville, AL, USA
Millimeter Wave Synthetic Aperture Imaging System with a Unique Rotary Scanning System
Ghasr, M. T.; Case, J. T.; McClanahan, A. D.; Abou-Khousa, M.; Guinn, K.; Kharkovsky, S.; Zoughi, R.; Afaki-Beni, A.; DePaulis, F.; Pommerenke, D.; November 10, 2008; In English; American Society for Nondestructive Testing (ASNT), 10-14 Nov. 2008, Charleston, SC, USA; See also 20090016289; See also 2009014245; sound; color; 4:16 playing time
Report No(s): MSFC-2164; No Copyright; Avail: CASI: C01, CD-ROM

This is the video that accompanies the ‘Millimeter Wave Synthetic Aperture Imaging System with a Unique Rotary Scanning System’ presentation. It shows the operation of the scanning system, and reviews the results of the scanning of a sample.
CASI
Imaging Techniques; Millimeter Waves; Scanners; Synthetic Apertures; Rotation

37
MECHANICAL ENGINEERING

Includes mechanical devices and equipment; machine elements and processes. For cases where the application of a device or the host vehicle is emphasized see also the specific category where the application or vehicle is treated. For robotics see *63 Cybernetics, Artificial Intelligence, and Robotics*; and *54 Man/System Technology and Life Support*.

19940009131 NASA Goddard Space Flight Center, Greenbelt, MD, USA
Goddard Space Flight Center robotics demo
Nov 1, 1988; In English; 15 min. playing time, in color, with sound
Report No(s): GSFC-S-06; NASA-TM-109302; NONP-NASA-VT-93-185317; No Copyright; Avail: CASI: C01, DVD

Documentary footage of a fascinating look at Goddard Space Flight Center’s Robotic Capability during a demonstration by Goddard robotics engineers is presented.
Author
Documentation; NASA Programs; Robot Control; Robotics; Tests

19940010790 NASA Goddard Space Flight Center, Greenbelt, MD, USA
Robotics for Space Station tape 2
Sep 1, 1989; In English; 16 min. 18 sec. playing time, in color, with sound
Report No(s): NASA-TM-109578; NONP-NASA-VT-93-190376; No Copyright; Avail: CASI: C01, DVD

This video shows robotics for the Space Station.
CASI
Robotics; Space Stations

19940010795 NASA Goddard Space Flight Center, Greenbelt, MD, USA
Robotics in space
Nov 1, 1988; In English; 7 min. 30 sec. playing time, in color, with sound
Report No(s): GSFC-S-05; NASA-TM-109584; NONP-NASA-VT-93-190382; No Copyright; Avail: CASI: C01, DVD

Produced for the AIAA symposium, this fast paced video shows robotics and telerobotics in the exploration of space.
CASI
Robotics; Space Exploration

19940010799 NASA Goddard Space Flight Center, Greenbelt, MD, USA
Robotics for Space Station, tape 1
Aug 1, 1989; In English; 30 min. playing time, in color, with sound
Report No(s): GSFC-T-16; NASA-TM-109588; NONP-NASA-VT-93-190386; No Copyright; Avail: CASI: C01, DVD

Shot on location at the Goddard Robotics Laboratory, this video uses state of the art Wavefront animation to take the viewer on a tour of the robotics that may, someday, be a part of Space Station Freedom.
CASI
Robotics; Space Station Freedom

19940010811 NASA, Washington, DC, USA
Future of robotics
Apr 1, 1989; In English; 2 min. 3 sec. playing time, in color, with sound
Report No(s): ASR-249; NASA-TM-109592; NONP-NASA-VT-93-190390; No Copyright; Avail: CASI: C01, DVD
This video describes robotic research such as the EVA retriever and virtual reality.
CASI
Extravehicular Activity; Robotics; Virtual Reality

19940010874 NASA, Washington, DC, USA
Unistick vehicle controller
Oct 1, 1986; In English; 4 min. 6 sec. playing time, in color, with sound
Report No(s): ASR-241; NASA-TM-109618; NONP-NASA-VT-93-190416; No Copyright; Avail: CASI: C01, DVD
A single stick control system, like the lunar rover, is presented as a control to enable disadvantaged individuals to drive with only one hand.
CASI
Control Sticks; Manual Control; Technology Utilization

19940010983 NASA Johnson Space Center, Houston, TX, USA
EVA retriever demonstration
Apr 1, 1988; In English; 10 min. 30 sec. playing time, in color, with sound
Report No(s): JSC-1055; NASA-TM-109510; NONP-NASA-VT-93-190307; No Copyright; Avail: CASI: C01, DVD
The EVA retriever is demonstrated in the Manipulator Development Facility (MDF). The retriever moves on the air bearing table ‘searching’ for its target, in this case tools ‘dropped’ by astronauts on orbit.
CASI
Extravehicular Activity; Retrieval; Target Acquisition

19940010986 NASA Johnson Space Center, Houston, TX, USA
STS-41 VCS training with mission specialist Bruce Melnick and Bill Shepard
Sep 1, 1990; In English; 12 min. playing time, in color, with sound
Report No(s): NASA-TM-109513; NONP-NASA-VT-93-190310; No Copyright; Avail: CASI: C01, DVD
Astronaut Bill Shepard is shown using the Voice Command System (VCS) in the Manipulative Development Facility (MDF) under the eye of project engineers and crew trainers. The video shows VCS in action moving cameras around the MDF payload bay mockup.
CASI
Remote Handling; Voice Control

19940027298 NASA Lewis Research Center, Cleveland, OH, USA
High temperature NASP engine seal development
JAN 1, 1992; In English; 6 min. 25 sec. playing time, in color, with sound
Report No(s): LERC-92-174; NASA-TM-109750; NONP-NASA-VT-94-9950; No Copyright; Avail: CASI: C01, DVD
This video details research being conducted at the Lewis Research Center on high temperature engine seal design for the National Aerospace Plane. To maximize the speed, the jets on the NASP extract oxygen from the air rather than carry large liquid fuel tanks; this creates temperatures within the jet of over 5000 F. To prevent these potentially explosive gases from escaping, researchers are developing new technologies for use in the engine seals. Two examples explained are the ceramic

wafer seal and the braided ceramic rope seal. Computer simulations and laboratory footage are used to illustrate the workings of these seals. Benefits for other aerospace and industrial applications, as well as for the space shuttle, are explored.
CASI
Aerospace Planes; Ceramics; Engine Parts; High Temperature; National Aerospace Plane Program; Refractory Materials; Seals (Stoppers)

19940029080 NASA Lewis Research Center, Cleveland, OH, USA
The Stirling engine
JAN 1, 1992; In English; 7 min. 25 sec. playing time, in color, with sound
Report No(s): LERC-CV-101; NASA-TM-109832; NONP-NASA-VT-94-12960; No Copyright; Avail: CASI: C01, DVD

This video describes the Stirling engine, an external combustion engine which creates heat energy to power the motor, and can use many types of fuel. It can be used for both stationary and propulsion purposes and has advantages of better fuel economy and cleaner exhaust than internal combustion engines. The engine is shown being road tested at Langley Air Force Base.
CASI
Engine Tests; Stirling Engines

19940029611 NASA Goddard Space Flight Center, Greenbelt, MD, USA
Robotics Demo Peer Group review
JAN 1, 1994; In English; 13 min. playing time, in color, with sound
Report No(s): NASA-TM-109849; NONP-NASA-VT-94-13714; No Copyright; Avail: CASI: C01, DVD

This animated color video shows the Shuttle robot arm performing construction on the Spacelab.
CASI
Remote Manipulator System; Robot Arms; Telerobotics

19940031006 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA
Teleoperation and supervised autonomy for ORU exchange
Aug 1, 1990; In English; 12 min. 30 sec. playing time, in color, with sound
Report No(s): JPL-AVC-1581-90; NASA-CR-196101; NONP-NASA-VT-94-15920; No Copyright; Avail: CASI: C01, DVD

This video presents scenes demonstrating current telerobotics technology, specifically teleoperation with the aid of a computer.
CASI
Teleoperators; Telerobotics

38
QUALITY ASSURANCE AND RELIABILITY

Includes approaches to, and methods for reliability analysis and control, quality control, inspection, maintainability, and standardization.

19940029215 NASA Marshall Space Flight Center, Huntsville, AL, USA
Activities of the NASA centers
Nov 1, 1989; In English; 15 min. playing time, in color, with sound
Report No(s): MSFC-682; NASA-TM-109836; NONP-NASA-VT-94-12964; No Copyright; Avail: CASI: C01, DVD

This video highlights the NASA centers and their activities. Additionally, the commitment of the NASA centers to quality assurance is presented.
CASI
NASA Programs; Quality Control; Research Facilities

39
STRUCTURAL MECHANICS

Includes structural element design, analysis and testing; dynamic responses of structures; weight analysis; fatigue and other structural properties; and mechanical and thermal stresses in structures. For applications see *05 Aircraft Design, Testing and Performance*; and *18 Spacecraft Design, Testing and Performance*.

19940027313 NASA Lewis Research Center, Cleveland, OH, USA
Futurepath 3
Oct 1, 1989; In English; 28 min. 55 sec. playing time, in color, with sound
Report No(s): NASA-TM-109762; NONP-NASA-VT-94-9962; No Copyright; Avail: CASI: C01, DVD

The story of research and technology at NASA Lewis Research Center's Structures Division is presented. The job and designs of the Structures Division needed for flight propulsion is described including structural mechanics, structural dynamics, fatigue, and fracture. The video briefly explains why properties of metals used in structural mechanics need to be tested. Examples of tests and simulations used in structural dynamics (bodies in motion) are briefly described. Destructive and non-destructive fatigue/fracture analysis is also described. The arc sprayed monotape (a composite material) is explained, as are the programs in which monotape plays a roll. Finally, the National Aero-Space Plane (NASP or x-30) is introduced, including the material development and metal matrix as well as how NASP will reduce costs for NASA.
CASI
Aerospace Planes; Dynamic Structural Analysis; National Aerospace Plane Program; Propulsion System Configurations; Propulsion System Performance

43
EARTH RESOURCES AND REMOTE SENSING

Includes remote sensing of earth features, phenomena and resources by aircraft, balloon, rocket, and spacecraft; analysis of remote sensing data and imagery; development of remote sensing products; photogrammetry; and aerial photography. For related instrumentation see *35 Instrumentation and Photography*.

19940010772 NASA, Washington, DC, USA
Views from space
Feb 1, 1990; In English; 3 min. 25 sec. playing time, in color, with sound
Report No(s): ASR-252; NASA-TM-109634; NONP-NASA-VT-93-190432; No Copyright; Avail: CASI: C01, DVD

This document shows how views from the shuttle provide valuable information as to the condition of earth.
CASI
Earth Observations (From Space); Environmental Monitoring; Remote Sensing; Space Shuttle Orbiters

19940010824 NASA, Washington, DC, USA
Combating malaria
Nov 1, 1989; In English; 3 min. 25 sec. playing time, in color, with sound
Report No(s): ASR-251; NASA-TM-109609; NONP-NASA-VT-93-190407; No Copyright; Avail: CASI: C01, DVD

This video shows the use of remote sensing to better target mosquito larvae for more effective control.
CASI
Insects; Parasitic Diseases; Remote Sensing

19940010837 NASA, Washington, DC, USA
Finding fish from above
Jan 1, 1991; In English; 2 min. 54 sec. playing time, in color, with sound
Report No(s): ASR-255; NASA-TM-109602; NONP-NASA-VT-93-190400; No Copyright; Avail: CASI: C01, DVD

This video shows how the use of satellites can help locate fish. The demonstration is intended for the fishing industry.
CASI
Fishes; Fishing; Industries; Satellite Observation; Technology Utilization

19940010861 NASA Johnson Space Center, Houston, TX, USA
STS-26 Shuttle Earth views, April 1990, part 1 and part 2
Jan 1, 1990; In English; 1 hr. 30 min. playing time, in color, no sound
Report No(s): JSC-CL-1242; NASA-TM-109564; NONP-NASA-VT-93-190362; No Copyright; Avail: CASI: C01, DVD

This video features Earth views compiled from a variety of footage shot during shuttle missions. Included are parts of North America, Africa, Europe, the Orient, and the Middle East.
CASI
Earth Observations (From Space); Space Shuttle Missions

19940010936 NASA, Washington, DC, USA
Testing the waters from space
Dec 1, 1986; In English; 2 min. 48 sec. playing time, in color, with sound
Report No(s): ASR-242; NASA-TM-109623; NONP-NASA-VT-93-190421; No Copyright; Avail: CASI: C01, DVD

It is explained how an infrared radiometer can accurately measure ocean surface temperature.
CASI
Earth Observations (From Space); Infrared Radiometers; Ocean Surface; Surface Temperature; Thermal Mapping

19940010955 NASA, Washington, DC, USA
Improved mapping system
Jan 1, 1991; In English; 3 min. 19 sec. playing time, in color, with sound
Report No(s): ASR-255; NASA-TM-109643; NONP-NASA-VT-93-190441; No Copyright; Avail: CASI: C01, DVD

This video explains the system of mapping terrain made more accurate with NASA technology.
CASI
Aerospace Technology Transfer; Geodetic Accuracy; Mapping; NASA Programs; Technology Utilization; Terrain; Topography

19940029092 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA
A collection of The Movies
Mar 28, 1991; In English; 21 min. 52 sec. playing time, in color, with sound
Report No(s): JPL-AVC-013-89; NASA-TM-109806; NONP-NASA-VT-94-12934; No Copyright; Avail: CASI: C01, DVD

This video contains computer-generated animation made from still data sets processed by computer to give the illusion of flying around the objects. 'Earth the Movie' uses cloud data from satellites and geographical data from maps. 'LA the Movie' was taken from Landsat data of the Los Angeles area. This was the first experimental demonstration of the technology. 'Mars the Movie' was taken from Viking orbiter data. 'Miranda' the Movie was made from a mosaic of 9 frames taken by Voyager of the Uranium moon, Miranda. The last movie is 'Monterey the Bay'.
CASI
Earth Observations (From Space); Remote Sensing; Satellite Imagery

19940029242 NASA Stennis Space Center, Stennis Space Center, MS, USA
EOCAP: Commercial Earth observations program
JAN 1, 1994; In English; 8 min. playing time, in color, with sound
Report No(s): NASA-TM-109798; NONP-NASA-VT-94-12926; No Copyright; Avail: CASI: C01, DVD

The Earth Observations Commercial Applications Program (EOCAP) is described. This video explains how EOCAP has aided in the development of new and commercial products.
CASI
Earth Observations (From Space); Earth Observing System (EOS); Earth Resources; Resources Management

19960025967 NASA Johnson Space Center, Houston, TX USA
Shuttle Earth Views, 1994, Part 4
Apr. 26, 1995; In English; 59 min. 30 sec. playing time, in color, no sound
Report No(s): NASA-TM-111372; CL-1383-Pt-4; NONP-NASA-VT-96-1996031301; No Copyright; Avail: CASI: C01, DVD

In this fourth part of a four part video compilation of Space Shuttles' Earth views various geographical areas are shown, including both land and water masses. The views covered the Middle East (Saudi Arabia, Sinai, Jordan , Egypt, Iran, Iraq, Kuwait, Bahrain, Qutar, and the United Arab Emirates), northeastern Africa (Yemen, Oman, Ethiopia, Somalia, and Djibouti), Russia, Siberia, India, Sri Lanka, Tibet, Bhutan, western China, and Mongolia. Various lakes, seas, rivers, and islands are shown, along with several pieces of film footage of sunsets, moon sets, clouds, and tropical storms. Each film clip has a heading that names the shuttle and the geographical location of the footage.
CASI
Space Shuttles; Earth Observations (From Space); Color Photography; Geographic Distribution

19960025968 NASA Johnson Space Center, Houston, TX USA
Shuttle Earth Views, 1994, Part 2
Apr. 26, 1995; In English; 58 min. 55 sec. playing time, in color, no sound
Report No(s): NASA-TM-111370; CL-1383-Pt-2; NONP-NASA-VT-96-1996031299; No Copyright; Avail: CASI: C01, DVD
In this second part of a four part video compilation of Space Shuttles' Earth views various geographical areas are shown, including both land and water masses. The views cover the southwestern, south central, and eastern USA, and the Caribbean area, Mexico, Gulf of Mexico, and South America (Ecuador, Peru, Brazil, Bolivia, Argentina, Chile, and Paraguay). Each film clip has a heading that names the shuttle and the geographical location of the footage.
CASI
Space Shuttles; Earth Observations (From Space); Geographic Distribution; Color Photography

19960025969 NASA Johnson Space Center, Houston, TX USA
Shuttle Earth Views, 1994, Part 1
Apr. 26, 1995; In English; 59 min. 17 sec. playing time, in color, no sound
Report No(s): NASA-TM-111369; CL-1383-Pt-1; NONP-NASA-VT-96-1996031298; No Copyright; Avail: CASI: C01, DVD
In this first part of a four part video compilation of Space Shuttles' Earth views, Canada, the western coastal states of the USA (from Oregon to southern California), and the southwestern and lower south central USA (from Texas to the Gulf of Mexico) geographical areas are presented from space observations. Each film clip has a heading that names the shuttle and the geographical location of the footage.
CASI
Space Shuttles; Earth Observations (From Space); Geographic Distribution; Color Photography

19960026020 NASA Johnson Space Center, Houston, TX USA
Shuttle Earth Views, 1994, Part 3
Apr. 26, 1995; In English; 59 min. 10 sec. playing time, in color, no sound
Report No(s): NASA-TM-111371; CL-1383-Pt-3; NONP-NASA-VT-96-1996031300; No Copyright; Avail: CASI: C01, DVD
In this third part of a four part video compilation of Space Shuttles' Earth views various geographical areas are shown, including both land and water masses. The views cover South America, Asia (North Vietnam, Laos, Cambodia, China, Malaysia, Thailand, Java, various islands, Burma, Philippines, Taiwan, Guam), New Guinea, Australia, Morocco, Southern Europe (Spain, Portugal, Algeria, Italy, Sicily, Greece, Former Republic of Yugoslavia, Tunisia), and parts of the Middle East (Libya, Saudi Arabia, Egypt, Israel, Jordan, Sinai, Cyprus, Lebanon, Iraq), the Pacific Ocean, the Atlantic Ocean, the Indian Ocean, and the Mediterranean, Dead, Coral, Tyrrhenian, Adriatic, Ionian, Red, South China, Mindanao, Arafura, Sulu, Java, and China Seas. Each film clip has a heading that names the shuttle and the geographical location of the footage.
CASI
Space Shuttles; Earth Observations (From Space); Geographic Distribution; Color Photography; Europe; Middle East; Asia; South America; Australia; Indonesia; Mediterranean Sea; Atlantic Ocean; Pacific Ocean; Indian Ocean

19970020396 NASA Goddard Space Flight Center, Greenbelt, MD USA
Glacier Bay, Alaska, from the Ground, Air, and Space
Hall, Dorothy K.; Feb. 23, 1997; In English; 13 min. 13 sec. playing time, in color, with sound
Report No(s): NASA-TM-112631; NONP-NASA-VT-1997032489; No Copyright; Avail: CASI: C01, DVD
This tape uses a combination of video, three-dimensional computer imaging, and still photographs to provide a descriptive overview of the life-cycle and environmental effects of glaciers. An historical prospective of researchers and the contribution

that they have made to the understanding of glaciers and Glacier Bay is presented. The data collected from these scientists have been documented and used by means of scientific visualization in the hope of learning how glacial activity relates to climate changes.
CASI
Glaciers; Environment Effects; Scientific Visualization; Climate Change; Glacial Drift; Satellite Imagery; Imaging Techniques

19970041021 North Dakota Univ., Grand Forks, ND USA
What is the Value of Space Exploration? - A Prairie Perspective
1995; 48 pp.; In English; What is the Value of Space Exploration? - A Prairie Perspective, 1-2 Nov. 1995, Grand Forks, ND, USA
Contract(s)/Grant(s): NAGw-4524
Report No(s): NASA/CR-97-205930; NONP-NASA-VT-1997082334; NAS 1.26:205930; No Copyright; Avail: CASI: C01, DVD
ONLINE: http://hdl.handle.net/2060/19970041021

The symposium addresses different topics within Space Exploration. The symposium was fed, using satellite downlinks, to several communities in North Dakota, the first such symposium of its type ever held. The specific topics presented by different community members within the state of North Dakota were: the economic, cultural, scientific and technical, political, educational and social value of Space Exploration. Included is a 22 minute video highlighting the symposium.
CASI
Conferences; North Dakota; Space Exploration; Education

44
ENERGY PRODUCTION AND CONVERSION

Includes specific energy conversion systems, e.g., fuel cells; and solar, geothermal, windpower, and waterwave conversion systems; energy storage; and traditional power generators. For technologies related to nuclear energy production see *73 Nuclear Physics*. For related information see also *07 Aircraft Propulsion and Power; 20 Spacecraft Propulsion and Power*, and *28 Propellants and Fuels*.

19950004112 NASA Lewis Research Center, Cleveland, OH, USA
SAMPIE (Solar Array Module Plasma Interactions Experiment)
Feb 1, 1994; In English; 7 min. 20 sec. playing time, with sound
Report No(s): LERC-241; NASA-TM-109918; NONP-NASA-VT-94-23160; No Copyright; Avail: CASI: C01, DVD

SAMPIE is an in-space technology experiment that flew on STS-62. Its intent is to investigate the potentially damaging effects of space plasma (gases) on different types, sizes, and shapes of solar cells, solar modules, and spacecraft materials.
LeRC
Earth Orbital Environments; Plasma Interactions; Solar Arrays; Solar Cells

45
ENVIRONMENT POLLUTION

Includes atmospheric, water, soil, noise, and thermal pollution.

19940009129 NASA Goddard Space Flight Center, Greenbelt, MD, USA
Arctic ozone expedition
Feb 1, 1989; In English; 18 min. 14 sec. playing time, in color, with sound
Report No(s): GSFC-S-14; NASA-TM-109301; NONP-NASA-VT-93-185316; No Copyright; Avail: CASI: C01, DVD

Documenting the expedition of scientists to the uppermost reaches of the North Pole, this tape shows what is involved in collecting this valuable climatic data.
Author
Arctic Regions; Data Acquisition; Ozone; Polar Meteorology

19940010765 NASA, Washington, DC, USA
Mars look-alike
Oct 1, 1987; In English; 4 min. 7 sec. playing time, in color, with sound
Report No(s): ASR-245; NASA-TM-109667; NONP-NASA-VT-93-190465; No Copyright; Avail: CASI: C01, DVD

This video presentation describes a research trek to western Antarctica to study it's ecosystem as a first step in the future exploration of Mars.
CASI
Antarctic Regions; Mars Environment

19940010816 NASA, Washington, DC, USA
Saving Yellowstone
Nov 1, 1988; In English; 3 min. 46 sec. playing time, in color, with sound
Report No(s): ASR-248; NASA-TM-109596; NONP-NASA-VT-93-190394; No Copyright; Avail: CASI: C01, DVD

This video explains how NASA participated in controlling the devastating forest fires that consumed parts of Yellowstone National Park.
CASI
Forest Fires; Technology Utilization; Yellowstone National Park (ID-MT-WY)

19940010817 NASA Goddard Space Flight Center, Greenbelt, MD, USA
TOMS computer graphics
Nov 1, 1988; In English; 3 min. 46 sec. playing, in color, with sound
Report No(s): GSFC-S-16; NASA-TM-109597; NONP-NASA-VT-93-190395; No Copyright; Avail: CASI: C01, DVD

This video explains how NASA participated in controlling the devastating forest fires that consumed parts of Yellowstone National Park.
CASI
Computer Graphics; Forest Fires; Total Ozone Mapping Spectrometer; Yellowstone National Park (ID-MT-WY)

19940010856 NASA Goddard Space Flight Center, Greenbelt, MD, USA
Atlas of TOMS ozone, 1978-1988
Feb 1, 1989; In English; 41 min. playing time, in color, with sound
Report No(s): GSFC-S-15; NASA-TM-109456; NONP-NASA-VT-93-190253; No Copyright; Avail: CASI: C01, DVD

This video contains very graphic images of the seasonal accumulation and depletion of the world's ozone layer, as depicted by the Total Ozone Mapping Satellite (TOMS).
CASI
Annual Variations; Ozone; Ozone Depletion; Ozonosphere; Total Ozone Mapping Spectrometer

19940010877 NASA, Washington, DC, USA
What's killing the trees?
Oct 1, 1987; In English; 3 min. 7 sec. playing time, in color, with sound
Report No(s): ASR-245; NASA-TM-109621; NONP-NASA-VT-93-190419; No Copyright; Avail: CASI: C01, DVD

The possible causes for forest decline are discussed, including acid rain on Camel's Hump Mountain, Vermont.
CASI
Acid Rain; Forest Management; Forests

19940010891 NASA, Washington, DC, USA

Global Greenhouse Expedition

Oct 1, 1990; In English; 3 min. 18 sec. playing time, in color, with sound

Report No(s): ASR-254; NASA-TM-109613; NONP-NASA-VT-93-190411; No Copyright; Avail: CASI: C01, DVD

This video covers an airborne study of greenhouse gases in the atmosphere.

CASI

Atmospheric Composition; Global Warming; Greenhouse Effect

19940010892 NASA, Washington, DC, USA

Arctic ozone

Apr 1, 1989; In English; 4 min. 35 sec. playing time, in color, with sound

Report No(s): ASR-249; NASA-TM-109614; NONP-NASA-VT-93-190412; No Copyright; Avail: CASI: C01, DVD

Recent research on ozone done in the Arctic region is detailed and an update on information is gained from the previous Antarctic research.

CASI

Arctic Regions; Ozone Depletion

19940010935 NASA, Washington, DC, USA

Louisiana delta study

Feb 1, 1990; In English; 3 min. 15 sec. playing time, in color, with sound

Report No(s): ASR-252; NASA-TM-109622; NONP-NASA-VT-93-190420; No Copyright; Avail: CASI: C01, DVD

The project studies the causes of land erosion and sediment transport in order to protect the Delta's resources.

CASI

Erosion; Land Management; Sediment Transport

19940010952 NASA, Washington, DC, USA

Forest fire study

Mar 1, 1987; In English; 3 min. 49 sec. playing time, in color, with sound

Report No(s): ASR-243; NASA-TM-109615; NONP-NASA-VT-93-190413; No Copyright; Avail: CASI: C01, DVD

The impact of natural fires on our environment is examined, especially regarding greenhouse gases.

CASI

Environment Effects; Forest Fires; Greenhouse Effect

19940014487 NASA, Washington, DC, USA

Ozone hole

Feb 1, 1988; In English; 3 min. 15 sec. playing time, in color, with sound

Report No(s): ASR-246; NASA-TM-109368; NONP-NASA-VT-94-198215; No Copyright; Avail: CASI: C01, DVD

The first segment of this video gives an overview of the Ozone Hole Airborne Arctic Stratospheric Expedition, an international effort using balloon payloads, ground based instruments, and airborne instruments to study ozone depletion and the hole in the ozone over Antarctica which occurs every spring. False color imagery taken from NASA's Nimbus 7 satellite which documents daily changes in ozone is also shown. The second segment of this video shows actual take-off and flight footage of the two aircraft used in the experiment: the DC-8 Flying Laboratory and the high flying ER-2.

CASI

Airborne Equipment; Arctic Regions; Expeditions; Ozone Depletion; Research Aircraft; Satellite Imagery; Stratosphere

19940014494 NASA Goddard Space Flight Center, Greenbelt, MD, USA
October 1979-1989 Southern Hemisphere total ozone as seen by TOMS
Nov 1, 1989; In English; 7 min. 20 sec. playing time, in color, with sound
Report No(s): GSFC-T-25; NASA-TM-109375; NONP-NASA-VT-94-198222; No Copyright; Avail: CASI: C01, DVD

This is raw video from space taken by the Total Ozone Mapping Satellite (TOMS).

CASI

Ozone; Total Ozone Mapping Spectrometer

19940029045 NASA Ames Research Center, Moffett Field, CA, USA
Ozone hole airborne Arctic stratospheric expedition (pre-flight)
Feb 1, 1989; In English; 7 min. playing time, in color, with sound
Report No(s): NASA-TM-109800; NONP-NASA-VT-94-12928; No Copyright; Avail: CASI: C01, DVD

Ozone research done in the Antarctic region is detailed.

CASI

Antarctic Regions; Ozone Depletion; Ozonometry; Stratosphere

19940030997 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA
Insight to global change: EOS/SAR mission
Jun 1, 1990; In English; 8 min. 30 sec. playing time, in color, with sound
Report No(s): JPL-AVC-105-90; NASA-CR-196133; NONP-NASA-VT-94-15911; No Copyright; Avail: CASI: C01, DVD

This video presentation describes the methods and instrumentation used to help in determining future climate changes on Earth and explains the benefits of experimentation with synthetic aperture radar (SAR). It also gives a better understanding of the burning of fossil fuels, deterioration of the biosphere and deforestation of the rain forest which causes the green house effect.

CASI

Climate Change; Earth Observing System (EOS); Remote Sensing; Synthetic Aperture Radar

19950004307 NASA Dryden Flight Research Center, Edwards, CA, USA, Department of the Air Force, Edwards AFB, CA, USA
The desert tortoise: A delicate balance
Aug 1, 1992; In English; 14 min. 12 sec. playing time, in color, with sound
Report No(s): NASA-TM-104294; NONP-NASA-VT-94-23639; No Copyright; Avail: CASI: C01, DVD

This award winning program looks at the efforts to preserve the desert tortoise in and around the Edwards Air Force Base, CA area. It also explains what people should do if they come in contact with a tortoise. This video was produced in cooperation with Edwards Air Force Base.

DFRC

Endangered Species; Environment Protection; Mojave Desert (CA); Turtles

19950011633 NASA Goddard Space Flight Center, Greenbelt, MD, USA
Evolution of the Southern Hemisphere ozone hole as seen by TOMS from August 1979 to December 1991
Aug 3, 1994; In English; 5 min. 45 sec. running time, in color, no sound
Report No(s): NASA-TM-110116; NONP-NASA-VT-95-37003; No Copyright; Avail: CASI: C01, DVD

The computerized color images of the Total Ozone Mapping Spectrometer (TOMS) showed the ozone distribution and levels in the Earth's southern hemisphere from August 1979 to December 1991 in this video. The annual variations were presented in a monthly format and the ozone levels were measured in Dobson units.

CASI

Annual Variations; Atmospheric Circulation; Computer Graphics; Earth Atmosphere; Ozone Depletion; Southern Hemisphere; Total Ozone Mapping Spectrometer

46
GEOPHYSICS

Includes Earth structure and dynamics, aeronomy; upper and lower atmosphere studies; ionospheric and magnetospheric physics; and geomagnetism. For related information see *47 Meteorology and Climatology*; and *93 Space Radiation*.

19940009147 NASA Marshall Space Flight Center, Huntsville, AL, USA
CRRES to blaze new trails in orbit
Jul 1, 1990; In English; 2 min. 5 sec. playing time, in color, with sound
Report No(s): MSFC-17817; NASA-TM-109314; NONP-NASA-VT-93-185329; No Copyright; Avail: CASI: C01, DVD

The purpose of the Combined Release Radiation Effects Satellite in re-mapping and planning protection for future spacecraft is described.
Author (revised)
CRRES (Satellite); Radiation Protection; Spacecraft Shielding

19940010809 NASA Goddard Space Flight Center, Greenbelt, MD, USA
Southern and Northern Hemisphere total ozone as seen by TOMS
Mar 1, 1989; In English; 24 min. playing time, in color, with sound
Report No(s): GSFC-S-31; NASA-TM-109591; NONP-NASA-VT-93-190389; No Copyright; Avail: CASI: C01, DVD

This video contains raw footage of this planet's upper atmosphere for use in the preparation of environmental and Earth monitoring presentation.
CASI
Northern Hemisphere; Ozone; Southern Hemisphere; Total Ozone Mapping Spectrometer; Upper Atmosphere

19940010890 NASA, Washington, DC, USA
Global climate study
Jul 1, 1989; In English; 3 min. 18 sec. playing time, in color, with sound
Report No(s): ASR-250; NASA-TM-109612; NONP-NASA-VT-93-190410; No Copyright; Avail: CASI: C01, DVD

The Global Surface Radiation Budget Experiment, which determines if current climate models are accurate, is explained.
CASI
Climate; Earth Radiation Budget Experiment; Radiation

19950004148 NASA, Washington, DC, USA
SPRITE video news release
Jul 1, 1994; In English; 2 min. 46 sec. playing time, no sound
Report No(s): NASA-TM-109703; NONP-NASA-VT-94-23136; No Copyright; Avail: CASI: C01, DVD

This video presentation provides the initial observations of high altitude atmospheric flashes above thunderstorms from the SPRITE upper atmospheric optical emissions campaign.
CASI
Atmospheric Radiation; Thunderstorms; Upper Atmosphere

19950004572 NASA, Washington, DC, USA
Dante's volcano
Sep 1, 1994; In English; 14 min. 40 sec. playing time
Report No(s): ASR-269; NASA-TM-109955; NONP-NASA-VT-94-25775; No Copyright; Avail: CASI: C01, DVD

This video contains two segments: one a 0:01:50 spot and the other a 0:08:21 feature. Dante 2, an eight-legged walking machine, is shown during field trials as it explores the inner depths of an active volcano at Mount Spurr, Alaska. A NASA sponsored team at Carnegie Mellon University built Dante to withstand earth's harshest conditions, to deliver a science payload to the interior of a volcano, and to report on its journey to the floor of a volcano. Remotely controlled from 80-miles away, the robot explored the inner depths of the volcano and information from onboard video cameras and sensors was relayed

via satellite to scientists in Anchorage. There, using a computer generated image, controllers tracked the robot's movement. Ultimately the robot team hopes to apply the technology to future planetary missions.
CASI
Remote Control; Robotics; Robots; Volcanoes; Walking Machines

19950010566 NASA, Washington, DC, USA
Forecasting earthquakes
JAN 1, 1994; In English; 11 min. 20 sec. playing time, in color, with sound
Report No(s): NASA-TM-110112; NASA-ASR-270; NONP-NASA-VT-95-35012; No Copyright; Avail: CASI: C01, DVD

In this video there are scenes of damage from the Northridge Earthquake and interviews with Dr. Andrea Donnelan, Geophysics at JPL, and Dr. Jim Dolan, earthquake geologist from Cal. Tech. The interviews discuss earthquake forecasting by tracking changes in the earth's crust using antenna receiving signals from a series of satellites called the Global Positioning System (GPS).
JPL
Earth Crust; Earthquakes; Forecasting; Geological Surveys; Global Positioning System

19950017243 NASA Johnson Space Center, Houston, TX, USA
The atmosphere below
JAN 1, 1992; In English; 16 min. playing time, in color, with sound
Report No(s): NASA-TM-110538; NONP-NASA-VT-95-43941; No Copyright; Avail: CASI: C01, DVD

In this educational 'Liftoff to Learning' video series, astronauts from the STS-45 Space Shuttle Mission (Kathy Sullivan, Byron Lichtenberg, Brian Duffy, Mike Foale, David Leestma, Charlie Bolden, and Dirk Frimont) explain and discuss the Earths atmosphere, its needs, the changes occurring within it, the importance of ozone, and some of the reasons behind the ozone depletion in the Earths atmosphere. The questions of: (1) what is ozone; (2) what has happened to the ozone layer in the atmosphere; and (3) what exactly does ozone do in the atmosphere, are answered. Different chemicals and their reactions with ozone are discussed. Computer animation and graphics show how these chemical reactions affect the atmosphere and how the ozone hole looks and develops at the south pole during its winter season appearance.
CASI
Annual Variations; Carbon Dioxide; Chemical Reactions; Chlorofluorocarbons; Climate Change; Earth Atmosphere; Global Warming; Nitrogen Compounds; Ozone; Ozone Depletion; Ozonosphere

19950020174 Maryland Public Television, Owings Mills, MD, USA
Live from Antarctica: Then and now
JAN 1, 1994; In English; 54 min. playing time, in color, with sound
Report No(s): NASA-CR-197829; NONP-NASA-VT-95-42903; No Copyright; Avail: CASI: C01, DVD

This real-time educational video series, featuring Camille Jennings from Maryland Public Television, includes information from Antarctic scientists and interactive discussion between the scientists and school children from both Maryland and Hawaii. This is part of a 'Passport to Knowledge Special' series. In this part of the four part Antarctic series, the history of Antarctica from its founding to the present, its mammals, plants, and other life forms are shown and discussed. The importance of Antarctica as a research facility is explained, along with different experiments and research that the facilities there perform.
CASI
Antarctic Regions; Biology; Botany; Histories; Meteorology; Research Facilities

19950020175 Maryland Public Television, Owings Mills, MD, USA
Live from Antarctica: The coldest, windiest place on Earth
JAN 1, 1994; In English; 1 hr. playing time, in color, with sound
Report No(s): NASA-CR-197737; NONP-NASA-VT-95-42904; No Copyright; Avail: CASI: C01, DVD

In this first part of a four part 'Passport to Knowledge Special', hosted by Camille Jennings from Maryland Public Television, children from Maryland and Texas schools had the opportunity to directly interact with and ask questions of scientists and researchers in Antarctica live. The physical characteristics of Antarctica are featured, along with their effects on the human and microbiological organisms living in the region. The reasons behind the clothing worn in the Antarctic and the

importance of the meteorological station are featured. Interviews with Professor Ian Dolziel (U of Texas) and Lt. commander John Joseph, NSFA (the head of the Navy Meteorology Center) occur with the school children, along with actual video footage of the surrounding geological features and geography. The ‘Weatherops’ is located at McMurdo Station, Antarctica.
CASI
Antarctic Regions; Geography; Geology; Marine Meteorology; Mcmurdo Sound; Microbiology; Organisms; Weather Stations

19950020176 Maryland Public Television, Owings Mills, MD, USA
Live from Antarctica, volume 4
JAN 1, 1994; In English; 57 min. playing time. in color, with sound
Report No(s): NASA-CR-197828; NONP-NASA-VT-95-42905; No Copyright; Avail: CASI: C01, DVD

In this fourth video of a four part ‘Passport to Knowledge Special’, hosted by Camille Moody Jennings from Maryland Public Television, children from Maryland and Alaska public schools had the opportunity to directly interact with and ask questions of scientists and researchers from the Antarctic, and learn about the different geological and meteorological research going on in the Antarctic and McMurdo Base at McMurdo Sound. The scientists questioned included: Donal Manahan (biologist from Un. of So. California), who described some of the geological features from Hut Point, the historic hut built by Capt. Scott in 1902; Sridar Anandakrishnan (Penn State Un.) whose research includes ice plate movement of the central ice sheet and earthquakes and how they affect the sheet; and Lt. j.g. Kate McNitt, who spends her winters investigating the trace gases, aerosols, CFC’s and ozone levels over the Antarctic area that are affecting the seasonal ozone hole that appears in that region. Historical film footage of Capt. Scott’s exploration of the Antarctic is included.
CASI
Air Pollution; Air Sampling; Antarctic Regions; Atmospheric Composition; Earthquakes; Histories; Marine Meteorology; Mcmurdo Sound; Meteorological Balloons; Ozone Depletion; Plates (Tectonics); Topology; Weather Forecasting

47
METEOROLOGY AND CLIMATOLOGY

Includes weather observation forecasting and modification.

19920025002 NASA Langley Research Center, Hampton, VA, USA
Inertial oscillation of a vertical rotating draft with application to a supercell storm: Video supplement to NASA Technical Paper 3230
Costen, Robert C.; Stock, Larry V.; Sep 15, 1992; In English; See also 19920024238; See also 92N33482, NASA-TP-3230; 8 min., color, sound
Contract(s)/Grant(s): RTOP 506-41-41-01
Report No(s): NASA-TP-3230-VIDEO-SUPPL; NONP-NASA-VT-92-125097; L0592-97; No Copyright; Avail: CASI: C01, DVD

In this video (8 min., color, sound), animation depicts the inertial oscillation of a new mathematical model (’vertical rotating draft’) for spinning up a single supercell storm. The oscillation consists of a long quiescent phase when the draft is large in diameter and rotates anticyclonically and a short intense phase when the draft is small and cyclonic. During the intense phase, the rotating draft resembles a supercell. The physical basis for the oscillation is depicted by tracking air parcels in the draft as they move along inertial circles (projected on a horizontal plane), where the horizontal pressure gradient is zero and the Coriolis force balances the centrifugal force. A side view of the oscillation shows that contraction and expansion are linked, respectively, to buoyantly driven compressible downdraft and updraft. An aerial view tracks the draft as it moves above the surface of the Earth and turns to the right during the intense phase. Radar echoes from a supercell storm are superimposed for comparison. The data appear to support only the intense phase. A critical experiment would measure the predominantly downward flow that theoretically occurs before the right turn in a supercell track and causes contraction and spin-up.
CASI
Atmospheric Circulation; Atmospheric Models; Computerized Simulation; Mathematical Models; Oscillations; Rotation; Thunderstorms; Vertical Air Currents

19940010753 NASA Marshall Space Flight Center, Huntsville, AL, USA
Mesoscale lightning
Apr 1, 1989; In English; 2 min. 16 sec. playing time, in color, with sound
Report No(s): MSFC-14733; NASA-TM-109655; NONP-NASA-VT-93-190453; No Copyright; Avail: CASI: C01, DVD

This video addresses ongoing lightning research and how data is valuable to upcoming projects.
CASI
Lightning; Mesoscale Phenomena

19940010853 NASA, Washington, DC, USA
Wind shear and heavy rain
Jul 1, 1989; In English; 2 min. 56 sec. playing time, in color, with sound
Report No(s): ASR-250; NASA-TM-109453; NONP-NASA-VT-93-190250; No Copyright; Avail: CASI: C01, DVD

This document looks at research on countering the effects of wind shear and heavy rain situations on flight stability.
CASI
Aerodynamic Stability; Aircraft Stability; Rain; Rainstorms; Wind Shear

19940010957 NASA Ames Research Center, Moffett Field, CA, USA
Venus lightning
Jul 1, 1990; In English; 3 min. playing time, in color, with sound
Report No(s): AAV-1319; NASA-TM-109644; NONP-NASA-VT-93-190442; No Copyright; Avail: CASI: C01, DVD

This document presents scenes of earth lightning with dramatic sound, views of Venus clouds rotating, and diagrams of Venusian weather.
CASI
Cloud Cover; Lightning; Thunderstorms; Venus (Planet); Venus Clouds; Weather

19940029044 NASA Stennis Space Center, Stennis Space Center, MS, USA
Hurricane Andrew mission
Sep 21, 1992; In English; 5 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-109797; NONP-NASA-VT-94-12925; No Copyright; Avail: CASI: C01, DVD

This video explains how NASA used their information on space development technology to assist in hurricane relief efforts.
CASI
Aerospace Engineering; Disasters; Hurricanes; Technology Utilization

20040200952 NASA, Washington, DC, USA
New Frontiers in Climate Research
May 1, 1995; In English; 2 hrs. playing time, in color, with sound; No Copyright; Avail: CASI: C01, DVD

Dr. France Cordova, NASA's Chief Scientist, chaired this, the fourth seminar in the NASA Administrator's Seminar Series. She introduced NASA Administrator, Daniel S. Goldin, who greeted the attendees, and in his opening remarks said that human beings have a need to understand the what and why of the forces of nature and of people, and the stresses on the planet Earth. The first speaker, Dr. Ellen Mosley-Thompson of Ohio State University discussed the many things that scientists have learned from ice cores obtained in Peru and the Antarctic. The next speaker, Dr. Michael McElroy of Harvard University, is active in environmental research. He noted that insurance companies need to know more about the physics and chemistry of weather in order to avoid bankruptcy; that the greenhouse effect, which is good because it reflects heat, is being changed, and we don't know the rules. In the discussion that followed, Goldin asked if the present technology for measuring circulation of air and water and contents of the atmosphere is worth the cost. Drs. McElroy and Mosley-Thompson noted that the historic record in an ice core is endangered by ice melts; that in the last 10 years we've learned that tropics change; that the water vapor in the tropics is critical right now; that clouds absorb short-wave radiation; and that there is a need to improve measurements of atmospheric contents, the development of models, and the understanding of basic physics. We also need to understand

parameters for detecting climate change, water, water temperature, and be able to provide fundamental information. Additional information is included in the original extended abstract.
Author (revised)
Climatology; Greenhouse Effect; Climate Change; Environment Effects

48
OCEANOGRAPHY

Includes the physical, chemical and biological aspects of oceans and seas; ocean dynamics; and marine resources. For related information see also *43 Earth Resources and Remote Sensing*.

19940010808 NASA Goddard Space Flight Center, Greenbelt, MD, USA
Coastal zone color scanner: Nimbus 7
May 1, 1989; In English; 15 min. 10 sec. playing time, in color, no sound
Report No(s): GSFC-S-34; NASA-TM-109590; NONP-NASA-VT-93-190388; No Copyright; Avail: CASI: C01, DVD

This video is a soundless presentation showing the global ocean color for scientific purposes. The tape makes excellent B-roll for use in editing.
CASI
Coastal Zone Color Scanner; Nimbus 7 Satellite; Oceans; Water Color

19940010876 NASA, Washington, DC, USA
Ocean wave study
May 1, 1991; In English; 3 min. 15 sec. playing time, in color, with sound
Report No(s): ASR-256; NASA-TM-109620; NONP-NASA-VT-93-190418; No Copyright; Avail: CASI: C01, DVD

An international study of waves in the Atlantic Ocean is explained. The study is to determine the effect of the waves on the transfer of energy between sea and air.
CASI
Air Water Interactions; Energy Transfer; Water Waves

51
LIFE SCIENCES (GENERAL)

Includes general research topics related to plant and animal biology (non-human); ecology; microbiology; and also the origin, development, structure, and maintenance of animals and plants in space and related environmental conditions. For specific topics in life sciences see *categories 52 through 55*.

19940010762 NASA, Washington, DC, USA
Plant research
Apr 1, 1985; In English; 3 min. 14 sec. playing time, in color, with sound
Report No(s): ASR-237; NASA-TM-109664; NONP-NASA-VT-93-190462; No Copyright; Avail: CASI: C01, DVD

This video presentation addresses Stennis research on the use of plants for the purification of water and air for living in space and on Earth.
CASI
Air Purification; Plants (Botany); Water Treatment

19940010905 NASA Johnson Space Center, Houston, TX, USA
STS-29 crew with student experiment
Feb 1, 1989; In English; 15 min. playing time, in color, with sound
Report No(s): JSC-1090; NASA-TM-109545; NONP-NASA-VT-93-190342; No Copyright; Avail: CASI: C01, DVD

John Vellinger, student experimenter, and Mark Deuser, Kentucky Fried Chicken Sponsor, are shown explaining the Chicken Embryo experiment to the crew.
CASI
Chickens; Embryos; Experiment Design; Spaceborne Experiments; Students

19940029058 NASA, Washington, DC, USA
Assisting wine growers
JAN 1, 1993; In English; 6 min. 25 sec. playing time, in color, with sound
Report No(s): NASA-TM-109812; NONP-NASA-VT-94-12940; ASR-264; No Copyright; Avail: CASI: C01, DVD

This video documents efforts at NASA Ames Research Center to assist wine growers in the Napa valley in their fight against a root parasite which is destroying millions of dollars worth of grape crops. NASA researchers are using airborne scanners and remote sensing equipment to detect the parasite before it becomes entrenched, so that growers can treat the harvest to resist infestation.
CASI
Crop Vigor; Infestation; Parasites; Remote Sensing; Vineyards

19940029264 NASA Kennedy Space Center, Cocoa Beach, FL, USA
KSC wildlife show
JAN 1, 1994; In English; 30 min. playing time, in color, with sound
Report No(s): NASA-TM-109808; NONP-NASA-VT-94-12936; No Copyright; Avail: CASI: C01, DVD

This video highlights footage of the many forms of animal and plant life that inhabit the environs surrounding KSC. Shown are birds, alligators, butterflies, and plants as they react to shuttle launches and other activities eminating from KSC.
CASI
Cape Kennedy Launch Complex; Environment Effects; Habitats; Spacecraft Launching; Wildlife

19950023871 Interface Video Systems, Inc., Washington, DC, USA
Life sciences program
JAN 1, 1995; In English; 17 min. 45 sec. playing time, in color, with sound
Report No(s): NASA-CR-197658; NONP-NASA-VT-95-46006; No Copyright; Avail: CASI: C01, DVD

This Life Science Program video examines the variety of projects that study both the physiological and psychological impacts on astronauts due to extended space missions. The hazards of space radiation and microgravity effects on the human body are described, along with these effects on plant growth, and the performance of medical procedures in space. One research technique, which is hoped to provide help for future space travel, is the study of aquanauts and their life habits underwater.
CASI
Aerospace Medicine; Gravitational Effects; Gravitational Physiology; Life Sciences; Long Duration Space Flight; NASA Space Programs; Psychological Factors; Radiation Effects; Space Missions

20010028790 Indiana Univ.-Purdue Univ., Indianapolis, IN USA
Dino Fest
Rosenberg, Gary D., Editor; Wolberg, Donald L., Editor; Spencer, Randall S., Editor; 1994; 512 pp.; In English, 24-26 Mar. 1994, Indianapolis, IN, USA; 2 hours playing time, in color, with sound
Contract(s)/Grant(s): NAG3-11657
Report No(s): NASA/CR-94-205958; NAS 1.26:205958; Rept-7; UTK-EO1-1040-002-95; NONP-NASA-VT-1997087409; No Copyright; Avail: CASI: C01, DVD
ONLINE: http://hdl.handle.net/2060/20010028790

This document and video represent the proceedings of the first Dinofest conference, which was unprecedented in bringing together exhibits of dinosaurs and other fossils and attracting many of the world's leading paleontologists and science educators, students and the public. This first Dinofest consisted of scores of exhibits that included live and fossil plants, invertebrates and vertebrates. Lasting three weeks, the event concluded with a three-day symposium, providing dinosaur experts from around the country a forum to discuss their research and ideas with the public and other scientists. The document presents the talks of many of the scientists. The video is from an interactive television broadcast relayed by a NASA satellite that enabled children at remote locations to ask questions of a panel of dinosaur experts, literally reaching an audience around the world.
CASI
Conferences; Fossils; Paleobiology; Paleontology; Reptiles

20040200744 NASA, Washington, DC, USA

Sustaining Life on the Earth

[2004]; In English; 1 hr., 44 min. playing time, in color, with sound; No Copyright; Avail: CASI: C01, DVD

Dr. France Cordova, NASA's Chief Scientist, opened this, the sixth seminar in the Administrator's Seminar Series, by introducing NASA Administrator Daniel S. Goldin. Mr Goldin welcomed the attendees and set the stage for Dr. Cordova's introduction of the first speaker, Dr. Robert Kates of Brown University. Dr. Kates primary concerns are global environmental changes, world hunger, and the size of the population. Human changes, he said, rival the changes of nature. Changes in the size of world population affect the need for more agricultural products, therefore more land for growing food, which leads to deforestation, which affects rainfall, and therefore the water supply which is in increased demand. Human ingenuity can reduce some shortages but generally doesn't keep up with increased demand for life-sustaining essentials. These problems require the concern of intergovernmental organizations, treaties and activities, as well as transnational corporations, and non-governmental and private, volunteer organizations. Next Dr. Diana Liverman of Pennsylvania State University spoke on human interactions regarding climate and society. She considered the effect of changes in land use on climate, using Mexico as an example. Mexicans changed from raising much wheat to raising more fruits and vegetables. This was in response to the demands of the market. The results were more industry, population growth, greater income, drought (because the new crops required more water), and conflicts over water supplies. Dr. Charles Kennel of the Office of Mission to Planet Earth joined Dr.s Cordova, Kates, and Liverman for the question and answer session that followed.

Author

Life Sciences; Earth (Planet); Environment Effects

52
AEROSPACE MEDICINE

Includes the biological and physiological effects of atmospheric and space flight (weightlessness, space radiation, acceleration, and altitude stress) on the human being; and the prevention of adverse effects on those environments. For psychological and behavioral effects of aerospace environments, see *53 Behavioral Sciences*. For the effects of space on animals and plants see *51 Life Sciences*.

19940010777 NASA, Washington, DC, USA

Cool suit

Feb 1, 1988; In English; 3 min. 5 sec. playing time, in color, with sound

Report No(s): ASR-246; NASA-TM-109639; NONP-NASA-VT-93-190437; No Copyright; Avail: CASI: C01, DVD

This video explains how a boy born with no sweat glands now lives a relatively normal life.

CASI

Chronic Conditions; Cooling Systems; Diseases; Disorders; Medical Equipment; Suits; Sweat; Temperature Control

19940010780 NASA, Washington, DC, USA

New insulin pump

Feb 1, 1988; In English; 3 min. 30 sec. playing time, in color, with sound

Report No(s): ASR-246; NASA-TM-109642; NONP-NASA-VT-93-190440; No Copyright; Avail: CASI: C01, DVD

This video details the Programmable Implant Medicine Monitoring System.

CASI

Endocrinology; Insulin; Medical Equipment; Medical Science; Pumps

19940010798 NASA Goddard Space Flight Center, Greenbelt, MD, USA

GSFC Fun Run

Oct 1, 1988; In English; 10 min. playing time, in color, with sound

Report No(s): GSFC-P-20; NASA-TM-109587; NONP-NASA-VT-93-190385; No Copyright; Avail: CASI: C01, DVD

This video shows Goddard's commitment to it's employees physical well-being by highlighting the Spring 1988 Goddard Fun Run.

CASI

Physical Exercise; Recreation

19940010836 NASA, Washington, DC, USA
Space adaptation
May 1, 1991; In English; 3 min. 15 sec. playing time, in color, with sound
Report No(s): ASR-256; NASA-TM-109601; NONP-NASA-VT-93-190399; No Copyright; Avail: CASI: C01, DVD

This video discusses space adaptation syndrome and a training simulator that may help astronauts adjust to microgravity before space flight.

CASI

Astronaut Training; Space Adaptation Syndrome; Training Simulators

19940010839 NASA, Washington, DC, USA
Laser artery repair
Apr 1, 1985; In English; 3 min. 51 sec. playing time, in color, with sound
Report No(s): ASR-237; NASA-TM-109604; NONP-NASA-VT-93-190402; No Copyright; Avail: CASI: C01, DVD

This video demonstrates the capabilities of the excimer laser and the angioscope for treating heart disease.

CASI

Arteries; Excimer Lasers; Heart Diseases; Surgery

19940010895 NASA Johnson Space Center, Houston, TX, USA
Living well in space: Monitoring environment
Jul 1, 1989; In English; 9 min. 45 sec. playing time, in color, with sound
Report No(s): JSC-1108; NASA-TM-109537; NONP-NASA-VT-93-190334; No Copyright; Avail: CASI: C01, DVD

This video describes the Environmental Health Systems (EHS). Progress in experiments concerning water quality, toxicology, microbiology, and radiation are addressed.

CASI

Environmental Monitoring; Health; Space Habitats; Spacecraft Environments

19940010896 NASA Johnson Space Center, Houston, TX, USA
Living well in space: Ensuring crew capability
Jul 1, 1989; In English; 7 min. 45 sec. playing time, in color, with sound
Report No(s): JSC-1107; NASA-TM-109538; NONP-NASA-VT-93-190335; No Copyright; Avail: CASI: C01, DVD

This video describes the Exercise Countermeasure Facility (ECF). The ECF provides a comprehensive exercise program to allow astronauts to remain physically fit during extended stays in space. Featured are the Exercise Development Laboratory, the Exercise Physiology Laboratory, the Anthromorphic and Biomechanical Laboratory, and the Artificial Intelligence Laboratory.

CASI

Aerospace Medicine; Astronauts; Biodynamics; Countermeasures; Exercise Physiology; Exobiology; Gravitational Physiology; Physical Exercise; Physical Fitness; Physiological Effects

19940010897 NASA Johnson Space Center, Houston, TX, USA
Living well in space: Clinical care challenge
Jul 1, 1989; In English; 9 min. 15 sec. playing time, in color, with sound
Report No(s): JSC-1108; NASA-TM-109539; NONP-NASA-VT-93-190336; No Copyright; Avail: CASI: C01, DVD

This video describes the Health Maintenance Facility (HMF). The HMF provides inflight medical care including prevention, diagnosis, and care during transport if the patient must be evacuated. A comparison to medical services found in a large hospital is used to describe the HMP's subsystems.

CASI

Aerospace Medicine; Aerospace Safety; Clinical Medicine; Health; Medical Equipment; Medical Services; Space Stations

19940010908 NASA Johnson Space Center, Houston, TX, USA
STS-32 crew training for lower body negative pressure unit and AFE
Nov 1, 1989; In English; 13 min. playing time, in color, with sound
Report No(s): JSC-1142; NASA-TM-109475; NONP-NASA-VT-93-190272; No Copyright; Avail: CASI: C01, DVD

Astronauts Dunbar, Ivins, and Low are shown preparing for the checkouts of the Lower Body Negative Pressure (LBNP) and American Flight Echocardiograph (AFE) tests. Dunbar gets into the LBNP suit, while technicians look on. Experiments on Dunbar are conducted while other crew members and technicians record data.
CASI
Astronaut Training; Astronauts; Echocardiography; Lower Body Negative Pressure; Physiological Tests; Spacecrews; Weightlessness Simulation

19940010984 NASA Johnson Space Center, Houston, TX, USA
Answering the space medicine challenge
Aug 1, 1988; In English; 15 min. playing time, in color, with sound
Report No(s): JSC-1035; NASA-TM-109511; NONP-NASA-VT-93-190308; No Copyright; Avail: CASI: C01, DVD

The development of the Space Station Health Maintenance Facility (HMF) is featured. The HMF will provide necessary inflight medical care, including prevention, diagnosis, treatment, and care during transport if the patient must be evacuated from Space Station.
CASI
Aerospace Medicine; Health; Space Stations; Spacecrews

19950004138 NASA, Washington, DC, USA
Spacelab Life Sciences-1
Aug 1, 1991; In English; 3 min. 53 sec. playing time, with sound
Report No(s): NASA-TM-109873; NONP-NASA-VT-94-23142; ASR-257; No Copyright; Avail: CASI: C01, DVD

STS-40, carrying Spacelab Life Sciences-1, was the first dedicated to study the human body in microgravity. Experiments regarding adaptation to space and readaptation to the world of gravity are discussed in this video. Spacelab is another precursor to long-term science aboard the space station.
CASI
Bioastronautics; Space Adaptation Syndrome; Spaceborne Experiments; Spacelab

19950004139 NASA, Washington, DC, USA
Aircraft to medicine
Dec 1, 1991; In English; 3 min. 5 sec. playing time, with sound
Report No(s): NASA-TM-109245; NONP-NASA-VT-94-23143; ASR-258; No Copyright; Avail: CASI: C01, DVD

This video discusses how the technology of computer modeling can improve the design and durability of artificial joints for human joint replacement surgery. Also, ultrasound, originally used to detect structural flaws in aircraft, can also be used to quickly assess the severity of a burn patient's injuries, thus aiding the healing process.
CASI
Aerospace Technology Transfer; Computer Aided Design; Medical Science; Ultrasonic Tests

19950004150 NASA Lewis Research Center, Cleveland, OH, USA
Telemedicine Spacebridge
May 1, 1994; In English; 6 min. 44 sec. playing time, with sound
Report No(s): LERC-255; NASA-TM-109923; NONP-NASA-VT-94-23165; No Copyright; Avail: CASI: C01, DVD

This video is an overview on NASA's Telemedicine Spacebridge Project, which lets US doctors consult with Russian clinicians thousands of miles away by demonstration of the feasibility of live, two-way, full-bandwidth video as a medical tool.
LeRC
Clinical Medicine; International Cooperation; Medical Electronics; Medical Equipment; Medical Services; Teleconferencing; Video Communication; Video Equipment

20070030954 National Advisory Committee for Aeronautics. Langley Aeronautical Lab., Langley Field, VA USA
Studies of Accelerations in Manned Vehicles During Exit and Reentry Flight
February 19, 1959; In English; Silent, Color, Black & White, 340ft, 9.5min.; DVD produced from the original 16mm recording
Report No(s): L-431; No Copyright; Avail: CASI: C01, DVD; Movie/Video (High Res)
ONLINE: View Movie/Video (Low Res); View Movie/Video (Medium Res)

Several experiments with human centrifugation are shown with subjects wearing different flight suits.

CASI

Human Centrifuges; Manned Reentry; Centrifugal Force; Acceleration Stresses (Physiology)

53
BEHAVIORAL SCIENCES

Includes psychological factors; individual and group behavior; crew training and evaluation; and psychiatric research.

19940010764 NASA, Washington, DC, USA
Teacher in space
Dec 1, 1985; In English; 4 min. 50 sec. playing time, in color, with sound
Report No(s): ASR-239; NASA-TM-109666; NONP-NASA-VT-93-190464; No Copyright; Avail: CASI: C01, DVD

This video presentation covers the Teacher in Space program from the competition and selection process to the training of Christa McAuliffe and Barbara Morgan.

CASI

Astronauts; Education; Instructors; NASA Programs

19940011026 NASA Lewis Research Center, Cleveland, OH, USA
Astronauts number 1
Sep 1, 1988; In English; 28 min. 51 sec. playing time, in color, with sound
Report No(s): LERC-3034; NASA-TM-109428; NONP-NASA-VT-93-190225; No Copyright; Avail: CASI: C01, DVD

The story of the selection and training of the seven Mercury astronauts is presented. A re-release of US Project Mercury.

CASI

Astronaut Training; Mercury Project; Personnel Selection

54
MAN/SYSTEM TECHNOLOGY AND LIFE SUPPORT

Includes human factors engineering, bionics, man-machine systems, life support, space suits and protective clothing. For related information see also *16 Space Transportation and Safety* and *52 Aerospace Medicine*.

19940009128 NASA Johnson Space Center, Houston, TX, USA
STS-30 Magellan IUS/EVA training in WETF
Apr 1, 1989; In English; 11 min. playing time, in color, with sound
Report No(s): NASA-TM-109300; NONP-NASA-VT-93-185315; No Copyright; Avail: CASI: C01, DVD

Astronauts Thagard and Lee suit up and enter the WETF to practice working the Magellan mockup in a zero-g environment.

Author

Extravehicular Activity; Inertial Upper Stage; Magellan Project (NASA); Microgravity; Space Shuttle Mission 61-A; Space Shuttle Payloads; Weightlessness Simulation

19940009138 NASA, Washington, DC, USA
New prosthetic devices
May 1, 1991; In English; 3 min. 36 sec. playing time, in color, with sound
Report No(s): ASR-256; NASA-TM-109304; NONP-NASA-VT-93-185322; No Copyright; Avail: CASI: C01, DVD

Using robotic techniques, NASA researchers have developed end-effectors designed to meet individual needs of hand and below the elbow amputees that are more efficient than the traditional hook.
Author
End Effectors; Prosthetic Devices; Robotics

19940009142 NASA, Washington, DC, USA
Recycling in space
May 1, 1991; In English; 3 min. 11 sec. playing time, in color, with sound
Report No(s): ASR-256; NASA-TM-109307; NONP-NASA-VT-93-185325; No Copyright; Avail: CASI: C01, DVD

NASA's effort to provide a completely enclosed life support system that offers food and recycled air, water, and waste for long-duration space travel or settlements is explained.
Author (revised)
Closed Ecological Systems; Environmental Engineering; Long Duration Space Flight; Recycling

19940010317 NASA Johnson Space Center, Houston, TX, USA
STS-35 EVA payload training in WETF
Apr 1, 1990; In English; 11 min. playing time, in color, with sound
Report No(s): JSC-1166; NASA-TM-109492; NONP-NASA-VT-93-190289; No Copyright; Avail: CASI: C01, DVD

Footage showing astronauts Lounge and Hoffman donning EVA suits while astronaut Durrance watches is presented. The footage also shows Lounge and Hoffman working on an ASTRO-1 mockup in the WETF.
Author (revised)
Astro Missions (STS); Astronaut Training; Extravehicular Activity; Payloads; Spacecrews; Weightlessness Simulation

19940010721 NASA Johnson Space Center, Houston, TX, USA
STS-35 crew training: EMU walk through and EVA prep and post
Apr 1, 1990; In English; 12 min. 30 sec. playing time, in color, with sound
Report No(s): JSC-1161; NASA-TM-109488; NONP-NASA-VT-93-190285; No Copyright; Avail: CASI: C01, DVD

This video shows astronauts Hoffman, Gardner, and Lounge donning the Extravehicular Mobility Unit (EMU) and performing checks on the system.
CASI
Astronaut Training; Extravehicular Activity; Extravehicular Mobility Units

19940010722 NASA Johnson Space Center, Houston, TX, USA
STS-35 Crew training: Bailout in CCT, firefighting, TAGS class and bailout in WETF
Apr 1, 1990; In English; 30 min. playing time, in color, with sound
Report No(s): JSC-1162; NASA-TM-109489; NONP-NASA-VT-93-190286; No Copyright; Avail: CASI: C01, DVD

Several aspects of crew training are shown including bailout exercises from the CCT and in the Weightless Environment Training Facility.
CASI
Astronaut Training; Bailout; Egress; Weightlessness Simulation

19940010751 NASA Johnson Space Center, Houston, TX, USA
Brown, Mark
Jul 1, 1989; In English; 8 min. 20 sec. playing time, in color, no sound
Report No(s): JSC-CL-1233; NASA-TM-109505; NONP-NASA-VT-93-190302; No Copyright; Avail: CASI: C01, DVD

Mark Brown is shown during ASCAN training programs including parachute and classroom instruction.
CASI
Astronaut Training; Astronauts

19940010812 NASA, Washington, DC, USA
Supporting life in space
Apr 1, 1989; In English; 3 min. 45 sec. playing time, in color, with sound
Report No(s): ASR-249; NASA-TM-109593; NONP-NASA-VT-93-190391; No Copyright; Avail: CASI: C01, DVD

This video examines NASA research regarding the growing of plants for food during long-duration space travel. The primary focus is on the Controlled Ecological Life Support System (CELLS).
CASI
Consumables (Spacecrew Supplies); Food Production (In Space); Long Duration Space Flight

19940010813 NASA, Washington, DC, USA
Ancient skills: Modern use
Nov 1, 1988; In English; 2 min. 42 sec. playing time, in color, with sound
Report No(s): ASR-248; NASA-TM-109594; NONP-NASA-VT-93-190392; No Copyright; Avail: CASI: C01, DVD

This video shows how Navajo Indians are involved in making the spacesuits of the future.
CASI
American Indians; Space Suits

19940010830 NASA Johnson Space Center, Houston, TX, USA
STS-30 EVA prep in CCT: Grabe, Lee, and Thagard
Apr 1, 1989; In English; 5 min. playing time, in color, with sound
Report No(s): JSC-1104; NASA-TM-109572; NONP-NASA-VT-93-190370; No Copyright; Avail: CASI: C01, DVD

Astronauts Grabe, Thagard, and Lee practice donning extravehicular activity (EVA) suits while in the CCT.
CASI
Astronaut Training; Space Shuttle Missions; Space Suits

19940010832 NASA Johnson Space Center, Houston, TX, USA
STS-29 pre-launch and post-landing egress
Mar 1, 1989; In English; 18 min. 10 sec. playing time, in color, with sound
Report No(s): JSC-1095; NASA-TM-109574; NONP-NASA-VT-93-190372; No Copyright; Avail: CASI: C01, DVD

This video shows crew emergency egress training. It includes practice after being hoisted to the ceiling and descending a rope.
CASI
Astronaut Training; Crew Procedures (Inflight); Crew Procedures (Preflight); Egress; Space Shuttles

19940010857 NASA Johnson Space Center, Houston, TX, USA
STS-37 CETA evaluation with Ross
Jul 1, 1990; In English; 5 min. 25 sec. playing time, in color, with sound
Report No(s): JSC-1174; NASA-TM-109495; NONP-NASA-VT-93-190292; No Copyright; Avail: CASI: C01, DVD

This video shows Astronaut Ross donning an EVA suit and performing various tasks on the Crew and Equipment Translation Aide (CETA) equipment.
CASI
Astronaut Locomotion; Astronaut Maneuvering Equipment; Extravehicular Activity; Orbital Servicing; Space Station Structures; Space Technology Experiments; Space Tools

19940010886 NASA Johnson Space Center, Houston, TX, USA
STS-34 final bench review
Oct 1, 1989; In English; 14 min. playing time, in color, with sound
Report No(s): JSC-1133; NASA-TM-109464; NONP-NASA-VT-93-190261; No Copyright; Avail: CASI: C01, DVD

The Space Shuttle crew is shown looking through equipment they will carry into orbit, including clothing, personal effects, and camera.
CASI
Space Shuttle Orbiters; Spacecrews

19940010887 NASA Johnson Space Center, Houston, TX, USA
STS-34 crew bailout exercise in CCT
Aug 1, 1989; In English; 10 min. 40 sec. playing time, in color, with sound
Report No(s): JSC-1123; NASA-TM-109465; NONP-NASA-VT-93-190262; No Copyright; Avail: CASI: C01, DVD
This video shows crews practicing bailout procedures in the CCT.
CASI
Astronaut Training; Bailout; Space Shuttle Missions

19940010888 NASA Johnson Space Center, Houston, TX, USA
STS-34 Chang-Diaz and E. Baker during Galileo contingency training in WETF
Sep 1, 1989; In English; 16 min. 15 sec. playing time, in color, with sound
Report No(s): JSC-1124; NASA-TM-109466; NONP-NASA-VT-93-190263; No Copyright; Avail: CASI: C01, DVD
Chang-Diaz and Baker are shown donning suits for submersion in the Weightless Environment Training Facility (WETF). Once in the water, they work on the Galileo mockup.
CASI
Astronaut Training; Crew Procedures (Inflight); Weightlessness Simulation

19940010889 NASA, Washington, DC, USA
Firefighters breathing system
Apr 1, 1989; In English; 2 min. 50 sec. playing time, in color, with sound
Report No(s): ASR-249; NASA-TM-109611; NONP-NASA-VT-93-190409; No Copyright; Avail: CASI: C01, DVD
The improvement of protective gear for fire fighters is presented, including the breathing system.
CASI
Breathing Apparatus; Protective Clothing

19940010898 NASA Johnson Space Center, Houston, TX, USA
International food research project
Oct 1, 1989; In English; 5 min. 30 sec. playing time, in color, with sound
Report No(s): JSC-1137; NASA-TM-109540; NONP-NASA-VT-93-190337; No Copyright; Avail: CASI: C01, DVD
Dr. Selina Ahmed, an associate professor of Human Nutrition, explains the purpose of the international Food Research Project to food tasters.
CASI
Food; International Cooperation; Nutrition

19940010902 NASA Johnson Space Center, Houston, TX, USA
STS-29 EVA prep in FFT
Jan 1, 1989; In English; 11 min. playing time, in color, with sound
Report No(s): JSC-1089; NASA-TM-109544; NONP-NASA-VT-93-190341; No Copyright; Avail: CASI: C01, DVD
Astronauts Blaha, Springer, and Bagian are shown donning suits in the FFT. Blaha runs through checklists while the other two suit up in the airlock.
CASI
Astronauts; Extravehicular Activity; Space Shuttle Missions; Space Transportation System Flights

19940010904 NASA Johnson Space Center, Houston, TX, USA
STS-32 LDEF EVA training in WETF with Low and Dunbar
Nov 1, 1989; In English; 14 min. playing time, in color, with sound
Report No(s): JSC-1133; NASA-TM-109473; NONP-NASA-VT-93-190270; No Copyright; Avail: CASI: C01, DVD

Astronauts Low and Dunbar are shown entering the Weightless Environment Training Facility to perform tasks they might be called on to do if extravehicular activity were required during their mission to retrieve the Long Duration Exposure Facility.
CASI
Astronaut Training; Astronauts; Extravehicular Activity; Long Duration Exposure Facility; Payload Retrieval (STS); Spacecrews; Weightlessness Simulation

19940010909 NASA Johnson Space Center, Houston, TX, USA
STS-29 crew food tasting in building 45
Jan 1, 1989; In English; 3 min. 28 sec. playing time, in color, with sound
Report No(s): JSC-1091; NASA-TM-109547; NONP-NASA-VT-93-190345; No Copyright; Avail: CASI: C01, DVD

The crew is shown tasting food that will be served on the Space Shuttle.
CASI
Consumables (Spacecrew Supplies); Food; Spacecrews; Taste

19940010910 NASA Johnson Space Center, Houston, TX, USA
STS-32 bailout training in WETF
Dec 1, 1989; In English; 13 min. playing time, in color, with sound
Report No(s): JSC-1143; NASA-TM-109476; NONP-NASA-VT-93-190273; No Copyright; Avail: CASI: C01, DVD

The crew is shown practicing water survival techniques in the Weightless Environment Training Facility in case of a bailout during the launch or landing.
CASI
Astronaut Training; Bailout; Water Landing

19940010912 NASA Johnson Space Center, Houston, TX, USA
STS-29 crew bailout in WETF
Feb 1, 1989; In English; 7 min. 30 sec. playing time, in color, with sound
Report No(s): JSC-1099; NASA-TM-109548; NONP-NASA-VT-93-190346; No Copyright; Avail: CASI: C01, DVD

The crew is donning life vests and being dropped into the WETF. Once in the water, the crew is trained on water survival techniques.
CASI
Astronaut Training; Bailout; Marine Environments; Protective Clothing; Spacecrews; Survival; Vests; Water

19940010914 NASA Johnson Space Center, Houston, TX, USA
STS-28 Adamson and Brown EMU walk through
Jul 1, 1989; In English; 10 min. playing time, in color, with sound
Report No(s): JSC-1119; NASA-TM-109549; NONP-NASA-VT-93-190347; No Copyright; Avail: CASI: C01, DVD

Astronauts Adamson and Brown are shown working on EMU suit, donning EVA gear, and entering vacuum chamber.
CASI
Astronaut Training; Astronauts; Extravehicular Activity; Extravehicular Mobility Units; Spacecrews

19940010915 NASA Johnson Space Center, Houston, TX, USA

STS-33 emergency egress training

Nov 1, 1989; In English; 15 min. playing time, in color, with sound

Report No(s): JSC-1138; NASA-TM-109525; NONP-NASA-VT-93-190322; No Copyright; Avail: CASI: C01, DVD

The STS-33 crew is shown donning flight survival gear, then entering the CCT for bailout exercises. After completion of the exercises in the CCT, the bailout procedures are practiced in the FFT.

CASI

Astronaut Training; Bailout; Egress

19940010917 NASA Johnson Space Center, Houston, TX, USA

1990 ASCAN land survival training

Feb 1, 1991; In English; 32 min. playing time, in color, with sound

Report No(s): JSC-1184; NASA-TM-109527; NONP-NASA-VT-93-190324; No Copyright; Avail: CASI: C01, DVD

This video shows astronaut candidates training at Fairchild AFB with signal flares, setting up tents, making fires, fishing, and signaling a helicopter with mirrors and radios.

CASI

Astronaut Training; Survival

19940010918 NASA Johnson Space Center, Houston, TX, USA

1990 ASCAN ground egress/parasail

Feb 1, 1991; In English; 32 min. playing time, in color, with sound

Report No(s): JSC-1182; NASA-TM-109528; NONP-NASA-VT-93-190325; No Copyright; Avail: CASI: C01, DVD

This video shows astronaut candidates practicing ground egress and parachute landing procedures.

CASI

Astronaut Training; Egress; Parachute Descent

19940010919 NASA Johnson Space Center, Houston, TX, USA

Crew escape certification test

Aug 1, 1988; In English; 2 min. 50 sec. playing time, in color, with sound

Report No(s): JSC-CL-1219; NASA-TM-109530; NONP-NASA-VT-93-190327; No Copyright; Avail: CASI: C01, DVD

This video shows the Shuttle hatch jettison test at Rockwell facilities. The video also shows a Shuttle escape pole deployment test from a NASA aircraft, and an emergency egress test performed by a volunteer Navy parachutist using the pole and a parachute escape system.

CASI

Egress; Escape Systems; Hatches; Jettisoning; Space Shuttle Orbiters

19940010928 NASA Johnson Space Center, Houston, TX, USA

STS-27 EMU and RMS contingency training

Dec 1, 1988; In English; 23 min. playing time, in color, with sound

Report No(s): JSC-1079; NASA-TM-109550; NONP-NASA-VT-93-190348; No Copyright; Avail: CASI: C01, DVD

This video shows astronauts donning their EMU suits and Astronauts Shepard and Ross training in the WETF on the RMS, which will not come down.

CASI

Astronaut Training; Astronauts; Extravehicular Mobility Units; Spacecrews

19940010929 NASA Johnson Space Center, Houston, TX, USA

STS-33 Carter and Thorton during WETF activities

Nov 1, 1989; In English; 8 min. 54 sec. playing time, in color, with sound

Report No(s): JSC-1129; NASA-TM-109471; NONP-NASA-VT-93-190268; No Copyright; Avail: CASI: C01, DVD

Astronauts Carter and Thorton are shown suiting up for work in the WETF (Weightless Environment Training Facility). (The payload mockup shown is not related to the STS-33 mission. It is a mockup of the Upper Atmosphere Research Satellite (UARS), which is scheduled to fly in the early 1990's.)

CASI

Astronaut Training; Astronauts; Space Flight Training; Spacecrews; Weightlessness Simulation

19940010931 NASA Johnson Space Center, Houston, TX, USA

STS-27 crew post-insertion deorbit-prep in CCT

Nov 1, 1988; In English; 14 min. playing time, in color, with sound

Report No(s): JSC-1078; NASA-TM-109552; NONP-NASA-VT-93-190350; No Copyright; Avail: CASI: C01, DVD

The crew is shown donning harness backpacks and suits for post-insertion activities in the CCT. Once on the CCT middeck, astronauts take off suits and practice stowing seats.

CASI

Astronauts; Space Shuttle Missions; Space Transportation System Flights; Spacecrews

19940010933 NASA Johnson Space Center, Houston, TX, USA

STS-27 crew fire training and glove molding

Nov 1, 1988; In English; 14 min. 30 sec. playing time, in color, with sound

Report No(s): JSC-1081; NASA-TM-109554; NONP-NASA-VT-93-190352; No Copyright; Avail: CASI: C01, DVD

The crew is shown during fire training exercises and space suit glove molding.

CASI

Astronaut Training; Casting; Fire Fighting; Fires; Gloves; Space Suits; Spacecrews

19940010962 NASA, Washington, DC, USA

Food for space

Jan 1, 1985; In English; 3 min. 20 sec. playing time, in color, with sound

Report No(s): ASR-236; NASA-TM-109668; NONP-NASA-VT-93-190466; No Copyright; Avail: CASI: C01, DVD

This video explores the food preparation and selection over the years of space flight.

CASI

Consumables (Spacecrew Supplies); Food; Preparation

19940010968 NASA Johnson Space Center, Houston, TX, USA

STS-31 Hubble space telescope contingency training in WETF with McCandless and Sullivan

Feb 1, 1989; In English; 13 min. playing time, in color, with sound

Report No(s): JSC-1086; NASA-TM-109480; NONP-NASA-VT-93-190277; No Copyright; Avail: CASI: C01, DVD

Astronauts McCandless adn Sullivan are shown suiting up for training with a telescope mockup in the Weightless Environment Training Facility (WETF).

CASI

Astronaut Training; Space Suits; Weightlessness Simulation

19940010980 NASA Johnson Space Center, Houston, TX, USA

STS-38 crew training: Habitation equipment procedures, bailout in CCT, 70mm photo class, EVA prep and post, and firefighting

Jul 1, 1990; In English; 20 min. playing time, in color, with sound

Report No(s): JSC-1176; NASA-TM-109494; NONP-NASA-VT-93-190291; No Copyright; Avail: CASI: C01, DVD

Several aspects of crew training are shown, including habitation equipment procedures and bailout procedures (both in CCT), 70mm photo class, EVA prep and post, and firefighting.

Author (revised)

Astronaut Training; Bailout; Extravehicular Activity; Fire Fighting; Space Habitats; Spacecrews

19940010981 NASA Johnson Space Center, Houston, TX, USA

Adamson, Jim

Jul 1, 1989; In English; 11 min. 34 sec. playing time, in color, with sound

Report No(s): JSC-CL-1234; NASA-TM-109507; NONP-NASA-VT-93-190304; No Copyright; Avail: CASI: C01, DVD

Jim Adamson is shown during ASCAN training programs including T-38 training, parachute and liferaft training, and classroom instruction.

CASI

Parachutes; T-38 Aircraft

19940010987 NASA Johnson Space Center, Houston, TX, USA

STS-37 astronauts Ross and Apt during CETA hardware checkout

Mar 1, 1990; In English; 7 min. 15 sec. playing time, in color, with sound

Report No(s): JSC-1158; NASA-TM-109496; NONP-NASA-VT-93-190293; No Copyright; Avail: CASI: C01, DVD

Astronauts Ross and Apt are shown checking out Crew and Equipment Translation Aide (CETA) equipment.

CASI

Astronaut Maneuvering Equipment; Checkout; Extravehicular Activity; Space Station Structures; Space Technology Experiments; Space Tools

19940010989 NASA Johnson Space Center, Houston, TX, USA

STS-36 crew EVA prep and post-training, bailout exercises, final bench review

Feb 1, 1990; In English; 14 min. 30 sec. playing time, in color, with sound

Report No(s): JSC-1153; NASA-TM-109498; NONP-NASA-VT-93-190295; No Copyright; Avail: CASI: C01, DVD

The crew is shown in the CCT airlock checking out EVA equipment and practicing bailout exercises. They are also shown looking over equipment they will carry into space including medical equipment, clothing, and cameras.

CASI

Air Locks; Astronaut Training; Extravehicular Activity; Space Flight Training; Space Shuttle Missions; Space Suits; Space Transportation System Flights; Spacecraft Equipment; Spacecrews

19940010997 NASA Johnson Space Center, Houston, TX, USA

STS-26 crew clothing, glove molding, and personal hygiene

Jul 1, 1988; In English; 19 min. 41 sec. playing time, in color, with sound

Report No(s): JSC-1064; NASA-TM-109520; NONP-NASA-VT-93-190317; No Copyright; Avail: CASI: C01, DVD

This video shows the crew during various phases of flight clothing fit checks, space suit glove molding, and selection of personal hygiene articles for use onboard the Shuttle.

CASI

Space Suits; Space Transportation System Flights; Spacecrews

19940011034 NASA, Washington, DC, USA
Space suit design
Jun 1, 1987; In English; 3 min. 48 sec. playing time, in color, with sound
Report No(s): ASR-244; NASA-TM-109670; NONP-NASA-VT-93-190468; No Copyright; Avail: CASI: C01, DVD

This video shows how space suits evolved to those being designed for the Space Station Freedom.

CASI

Design Analysis; Space Suits

19940011041 NASA Johnson Space Center, Houston, TX, USA
Mark 111 suit test evaluation in WETF with Jerry Ross
Oct 1, 1989; In English; 7 min. 50 sec. playing time, in color, with sound
Report No(s): JSC-1135; NASA-TM-109504; NONP-NASA-VT-93-190301; No Copyright; Avail: CASI: C01, DVD

Astronaut Jerry Ross tests the new Mark 111 spacesuit in the WETF. The Mark 111 could be used as the main spacesuit on the Space Station Freedom.

CASI

Design Analysis; Space Suits

19950016854 NASA Johnson Space Center, Houston, TX, USA
Living in space
Brown, Ray, editor; JAN 1, 1993; In English; 9 min. 45 sec. playing time, in color, with sound
Report No(s): NASA-TM-110536; NONP-NASA-VT-95-43939; No Copyright; Avail: CASI: C01, DVD

In this educational video from the 'Liftoff to Learning' series, astronauts from the STS-56 Mission (Ken Cockell, Mike Foale, Ellen Ochoa, Steve Oswald, and Ken Cameron) explain and show through demonstrations how microgravity affects the way astronauts live onboard the Space Shuttle, and how these same daily habits or processes differ on Earth. A tour of the Space Shuttle is given, including the sleeping compartments, the kitchen area, the storage compartments, and the Waste Collection System (or WCS, as they call it). Daily habits (brushing teeth, shampooing hair and bathing, eating,...) are explained and actively illustrated, along with reasons of how these applications differ from their employment on Earth

CASI

Aircraft Compartments; Crew Workstations; Earth Gravitation; Education; Gravitational Effects; Microgravity; Space Shuttle Missions; Spaceborne Experiments; Spacecraft Modules

19950022759 Lockheed Engineering and Sciences Co., Washington, DC, USA
Lockheed Stabilizer System for space exercise equipment
Feb 25, 1992; In English; 5 min. playing time, in color, without sound
Report No(s): NASA-CR-197657; HQ-91-03N; NONP-NASA-VT-95-46004; No Copyright; Avail: CASI: C01, DVD

Through the use of computer animation, the Lockheed Stabilizer System for spaceborne exercise equipment is shown. A bicycle mounted onto a shuttle floor demonstrates the range of vibrations that occur without the Lockheed Stabilizer. There is animation of the stabilizer system's tests and normal protein crystal growth in microgravity environments. Actual short clips of astronauts exercising in space are also presented.

CASI

Computer Animation; Control Stability; Control Systems Design; Microgravity; Physical Exercise; Stabilized Platforms; Vibration Effects

20010029212 NASA Johnson Space Center, Houston, TX USA
1995 ASCAN Training: Land Survival
Jan. 01, 1995; In English; 61 min. 28 sec. playing time, in color, with sound
Report No(s): NON-NASA-VT-2001041437; No Copyright; Avail: CASI: C01, DVD

Footage shows astronaut candidates during land survival training, where they are seen performing such activities as constructing shelters, making nets, and finding food.

CASI

Astronaut Training; Survival

20010059253 NASA Lewis Research Center, Cleveland, OH USA
Moonwalking Series, Episode 2: Adapting to a Space Environment
[2001]; In English; 29 min. 13 sec. playing time, in color, with sound
Report No(s): NONP-NASA-VT-2001095020; No Copyright; Avail: CASI: C01, DVD

This episode (second in a four-part series) shows the procedures Apollo operators used in order to make sure the astronauts would be able to survive in outer space, namely testing man's limitations and preferences (atmospheric pressure, temperature range, breathing gas, acceleration protection) and adapting the Columbia Module to account for these limitations. This show explains the function of the different stages of the moon rocket, i.e., how the stages separate and what becomes of them. We pick up the moonwalk story by looking back at some of the old classic space films that were a Hollywood perspective on future space travel.
Author (revised)
Aerospace Environments; Astronauts; Moon; Astronaut Training; Extravehicular Activity

55
EXOBIOLOGY

Includes astrobiology; planetary biology; and extraterrestrial life. For the biological effects of aerospace environments on humans see *52 Aerospace Medicine*; on animals and plants see *51 Life Sciences*. For psychological and behavioral effects of aerospace environments see *53 Behavioral Sciences*.

19940027883 NASA Ames Research Center, Moffett Field, CA, USA
The quest for contact
Feb 1, 1992; In English; 32 min. playing time, in color, with sound
Report No(s): NASA-TM-109778; NONP-NASA-VT-94-9978; No Copyright; Avail: CASI: C01, DVD

This video details the history and current efforts of NASA's Search for Extraterrestrial Intelligence program. The video explains the use of radiotelescopes to monitor electromagnetic frequencies reaching the Earth, and the analysis of this data for patterns or signals that have no natural origin. The video presents an overview of Frank Drake's 1960 'Ozma' experiment, the current META experiment, and planned efforts incorporating an international Deep Space Network of radiotelescopes that will be trained on over 800 stars.
CASI
Deep Space Network; Extraterrestrial Intelligence; Project Seti; Radio Telescopes

20040201037 NASA, Washington, DC, USA
Living Places in Other Solar Systems
[2004]; 2 pp.; In English; 1 hr., 50 min. playing time, in color, with sound; No Copyright; Avail: CASI: C01, DVD

Dr. Sargent noted that evidence of other solar systems that might sustain life, particularly human life, is being sought. Protoplanetary (or debris) disks have been observed and are considered evidence that other solar systems exist or are being formed. Also observed is a wobble which is seen as evidence of circulation around a celestial body and gaps that are created by the potential planet. One indicator of life may be these rings or disks of debris around stars. Interferometers, which are telescopic devices that consist of multiple lenses, are being developed in order to better see celestial objects and what may be found around them. Other methods for improving celestial viewing capabilities are also under development. She spoke of particularly looking for wobble and gaps and debris disks where new planets are being formed in an effort to discover another planet that might sustain life as we know it. The next speaker, Dr. Chris McKay, is a planetary scientist at NASA Ames. He talked about the possibility of life on Mars or in some other solar system. He commented on the sameness of the origin of all life, and of the origin of, and the need for, oxygen and water. He believes that water originally came to Earth from comets. At least that is a viable possible source. Water might also have come to Earth via asteroids. Dr. McKay also postulates that there can be no water on Mars because Mars has no plate tectonic system, which he believes is an essential for recycling water. . Dr. Wes Huntress, NASA s Associate Administrator for Space Science, and Dr. Barbara Stone, also from NASA Headquarters, joined Drs. Cordova, Sargent and McKay in the question and answer period following the presentations. (Mr. Goldin was excused to keep an appointment with the President.) The discussion included the following statements and questions: The more missions that there are, the more technology is developed. We need to study our solar system to have something to which we can compare other systems. Before we send people to distant places or to other planets, we need to study the psychological and biological problems that are created by going away from Earth for a long period of time. Pulsars appear to have planets rotating around them. This is of interest and should be studied further. Looking back in time, is there

any thought to seeing the development of life? How long did it take for oxygen to rise on the Earth? Do debris disks around the stars provide velocity patterns? To detect life scientists are listening for radio signals, looking for oxygen or ozone, and looking for liquid water. On Earth liquid water is the defining ecological parameter for life. This means that operationally the search for life elsewhere is primarily a search for liquid water.
Derived from text
Biological Evolution; Extraterrestrial Life; Mars Surface; Radio Signals

60
COMPUTER OPERATIONS AND HARDWARE

Includes hardware for computer graphics, firmware and data processing. For components see *33 Electronics and Electrical Engineering*. For computer vision see *63 Cybernetics, Artificial Intelligence and Robotics*.

19940009136 NASA Ames Research Center, Moffett Field, CA, USA
Cray Y-MP
Nov 1, 1988; In English; 12 min. playing time, in color, with sound
Report No(s): AAV-1230; NASA-TM-109303; NONP-NASA-VT-93-185321; No Copyright; Avail: CASI: C01, DVD

This video shows the installation of the Cray Y-MP, a computer four times faster than any other computer at Ames. Computer room scenes, aeronautical and space applications, and other non-aerospace applications are also included.
Author (revised)
Cray Computers; Research Facilities

19940010755 NASA Marshall Space Flight Center, Huntsville, AL, USA
NASA Spacelink computer
May 1, 1989; In English; 2 min. 13 sec. playing time, in color, with sound
Report No(s): NASA-TM-109657; NONP-NASA-VT-93-190455; No Copyright; Avail: CASI: C01, DVD

This video introduces Spacelink, a computer resource that educators and students can access. The purpose of Spacelink is to stimulate interest in math and science.
CASI
Computers; Education; Information Systems

19940010982 NASA Johnson Space Center, Houston, TX, USA
Freedom system Text and Graphics Systems (TAGS)
Apr 1, 1989; In English; 1 min. 50 sec. playing time, in color, with sound
Report No(s): JSC-1111; NASA-TM-109509; NONP-NASA-VT-93-190306; No Copyright; Avail: CASI: C01, DVD

The Text and Graphics Systems (TAGS) is a high-resolution facsimile system that scans test or graphics material and converts the analog SCAN data into serial digital data. This video shows the TAGS in operation.
CASI
Analog Data; Character Recognition; Computer Graphics; Digital Data

19940014488 NASA, Washington, DC, USA
The world's most powerful computer
Oct 1, 1986; In English; 2 min. 42 sec. playing time, in color, with sound
Report No(s): ASR-241; NASA-TM-109369; NONP-NASA-VT-94-198216; No Copyright; Avail: CASI: C01, DVD

The use of the Cray 2 supercomputer, the fastest computer in the world, at ARC is detailed. The Cray 2 can perform 250 million calculations per second and has 10 times the memory of any other computer. Ames researchers are shown creating computer simulations of aircraft airflow, waterflow around a submarine, and fuel flow inside of the Space Shuttle's engines. The video also details the Cray 2's use in calculating airflow around the Shuttle and its external rockets during liftoff for the first time and in the development of the National Aero Space Plane.
CASI
Computerized Simulation; Cray Computers; Research Facilities; Supercomputers

19940027310 NASA Lewis Research Center, Cleveland, OH, USA
The vision machines
Apr 1, 1993; In English; 22 min. playing time, in color with sound
Report No(s): LERC-93-216; NASA-TM-109757; NONP-NASA-VT-94-9957; No Copyright; Avail: CASI: C01, DVD

The thoughts of computer scientists at LeRC on the direction that computer development is taking and future implications are explored. Experts discuss the coming information superhighway and technologies such as fiber optics and neural networks. The impact of future computers on education, laboratory research, telecommunications, and science visualization.
CASI
Communication Networks; Computer Networks; Fiber Optics; Multimedia; Neural Nets

61
COMPUTER PROGRAMMING AND SOFTWARE

Includes software engineering, computer programs, routines, algorithms, and specific applications, e.g., CAD/CAM. For computer software applied to specific applications, see also the associated category.

19940009163 NASA Johnson Space Center, Houston, TX, USA
Six degree of freedom
Nov 1, 1990; In English; 7 min. 41 sec. playing time, in color, with sound
Report No(s): JSC-1189; NASA-TM-109295; NONP-NASA-VT-93-185310; No Copyright; Avail: CASI: C01, DVD

This animated clip shows operations of the Six Degree of Freedom (DOF) computer during a simulated mission. The clip is intercut with live video of a shuttle crew ‘docking’ with Space Station Freedom.
Author (revised)
Computerized Simulation; Degrees of Freedom; Space Shuttle Orbiters; Spacecraft Docking

19940032011 NASA Langley Research Center, Hampton, VA, USA
EM-ANIMATE: A computer program for displaying and animating electromagnetic near-field and surface-current solutions: Video supplement to NASA Technical Memorandum 4539
Hom, Kam W.; May 1, 1994; In English; 6 min., color, sound
Contract(s)/Grant(s): RTOP 505-59-70-03
Report No(s): NASA-TM-4539-VIDEO-SUPPL; L-00993-168; NONP-NASA-VT-94-12970; No Copyright; Avail: CASI: C01, DVD

In this video, several examples of electromagnetic field and surface-current animation sequences are shown to demonstrate the visualization capabilities of the EM-ANIMATE computer program. These examples show the animation of total and scattered electric near fields from test bodies of a flat plate, a corner reflector, and a sphere. These test cases show the electric-field behavior caused by different scattering mechanisms through the animation of electromagnetic data from the EM-ANIMATE routine.
Author (revised)
Animation; Applications Programs (Computers); Computer Graphics; Computerized Simulation; Electromagnetic Fields; Electromagnetic Scattering; Near Fields; Scientific Visualization; Surface Properties

19950004143 NASA, Washington, DC, USA
Virtual reality
Dec 1, 1991; In English; 3 min. 32 sec. playing time, with sound
Report No(s): NASA-TM-109906; NONP-NASA-VT-94-23148; ASR-258; No Copyright; Avail: CASI: C01, DVD

This video presentation discusses how virtual reality enables scientists to ‘explore’ other worlds without leaving the laboratory. The applicability of virtual reality for scientific visualization is also discussed.
CASI
Computerized Simulation; Virtual Reality

19950023827 NASA Ames Research Center, Moffett Field, CA, USA
Telepresence media resource tape
Jan 31, 1992; In English; 9 min. playing time, in color, with sound
Report No(s): NASA-TM-110648; NASA-AAV-1387; NONP-NASA-VT-95-57872; No Copyright; Avail: CASI: C01, DVD

Dr. Michael McGreevey (NASA's Ames Research Center) explains what virtual reality is and how NASA uses this concept. Computer animation of different planets using virtual reality is shown. One Ames research tool, the Virtual Wind Tunnel allows air flow to be studied inside the tunnel from any conceivable location. Dr. Carol Stoker (NASA's Ames Research Center) comments on Telepresence, one form of virtual reality.
CASI
Computerized Simulation; Man Machine Systems; Motion Simulation; Teleoperators; Virtual Reality; Wind Tunnels

19960028547 NASA Johnson Space Center, Houston, TX USA
Images of Earth and Space: The Role of Visualization in NASA Science
Mar. 06, 1996; In English; 17 min. 14 sec. playing time, in color, with sound
Report No(s): NASA-TM-111618; BRF-1395J; NONP-NASA-VT-96-1996060600; No Copyright; Avail: CASI: C01, DVD

Fly through the ocean at breakneck speed. Tour the moon. Even swim safely in the boiling sun. You can do these things and more in a 17 minute virtual journey through Earth and space. The trek is by way of colorful scientific visualizations developed by the NASA/Goddard Space Flight Center's Scientific Visualization Studio and the NASA HPCC Earth and Space Science Project investigators. Various styles of electronic music and lay-level narration provide the accompaniment.
CASI
Scientific Visualization; Computational Fluid Dynamics; Computerized Simulation; Education

63
CYBERNETICS, ARTIFICIAL INTELLIGENCE AND ROBOTICS

Includes feedback and control theory, information theory, machine learning, and expert systems. For related information see also *54 Man/System Technology and Life Support.*

19940011042 NASA Johnson Space Center, Houston, TX, USA
Programmable Remapper project
Jul 1, 1990; In English; 23 min. 50 sec. playing time, in color, with sound
Report No(s): NASA-TM-109508; NONP-NASA-VT-93-190305; No Copyright; Avail: CASI: C01, DVD

This video shows how the Remapper Project helps with many problems including vision problems. It shows the Remapper in action as it tracks several objects around the moon. The video is narrated by Dr. Richard Juday, Robotic Vision, Manager at the Johnson Space Center.
CASI
Computer Vision; Image Resolution; Robot Sensors; Tracking (Position)

20040200961 NASA, Washington, DC, USA
To Boldly Go: Machine Consciousness and the Exploration of Space
[2004]; 1 pp.; In English; No Copyright; Avail: CASI: C01, DVD

Dr. France Cordova, NASA's Chief Scientist, chaired this meeting, another part of the NASA Administrator's Seminar Series. She introduced Administrator Daniel S. Goldin, who welcomed the attendees, and noted that the two speakers have a running feud regarding the possibility of creating robots that can 'think'. Dr. Cordova then introduced the first speaker, Dr. Roger Penrose of the Mathematical Institute at Oxford in the U.K. His primary interests are in mathematics, physics, information systems technology, and artificial intelligence. He thinks that robots cannot be made to 'think' and that consciousness is not computable. Dr. Hans Moravec, who spoke next, has opinions and activities that are related to, but substantially different from those of Dr. Penrose. Dr. Moravec believes that he can build a robot that can act based on the deductions that it will make. To mimic human thinking capabilities, he figures that a robot ultimately will need to be able to handle ten trillion computations per second. He predicts that his goal of building a 'thinking' robot will be met in the 2030-2040 time period. He pointed out that he already has built a car that successfully drove itself from Washington, DC to San Diego, CA. He commented that a human being, was ready to take over driving the car, if necessary, but there was no need. The robots envisioned by Dr. Moravec would not only be able to 'think', but also would have human-like emotions, and

ultimately would be able to reproduce. The discussion that followed raised questions about the morality of sending human-like robots into outer space. Also a concern was expressed that human-like robots might perceive humans as a threat and become dangerous to people.
Author
Artificial Intelligence; Consciousness; Robots; Cognitive Psychology

64
NUMERICAL ANALYSIS

Includes iteration, differential and difference equations, and numerical approximation.

19960001040 California Inst. of Tech., Irvine, CA, USA
The story of pi
Apostol, Tom M., editor; JAN 1, 1989; In English; 26 min. 13 sec. playing time, in color, with sound
Report No(s): NASA-CR-199499; NONP-NASA-VT-95-68010; No Copyright; Avail: CASI: C01, DVD

The early history and the uses of the mathematical notation - pi - are presented through both film footage and computer animation in this 'Project Mathematics' series video. Pi comes from the first letter in the Greek word for perimeter. Archimedes, and early Greek mathematician, formulated the equations for the computation of a circle's area using pi and was the first person to seriously approximate pi numerically, although only to a few decimal places. By 1985, pi had been approximated to over one billion decimal places and was found to have no repeating pattern. One use of pi is the application of its approximation calculation as an analytical tool for determining the accuracy of supercomputers and software designs.
CASI
Applications of Mathematics; Computation; Computer Animation; Histories

19960001064 California Inst. of Tech., Irvine, CA, USA
Sines and cosines. Part 3 of 3
Apostol, Tom M., editor; JAN 1, 1994; In English; 30 min. 7 sec. playing time, in color, with sound
Report No(s): NASA-CR-199455; NONP-NASA-VT-95-67470; No Copyright; Avail: CASI: C01, DVD

In this 'Project Mathematics' series video, the addition formulas of sines and cosines are explained and their real life applications are demonstrated. Both film footage and computer animation is used. Several mathematical concepts are discussed and include: Ptolemy's theorem concerned with quadrilaterals; the difference between a central angle and an inscribed angle; sines and chord lengths; special angles; subtraction formulas; and a application to simple harmonic motion. A brief history of the city Alexandria, its mathematicians, and their contribution to the field of mathematics is shown.
Author
Angles (Geometry); Cosine Series; Simple Harmonic Motion; Sine Series; Theorems; Trigonometry

19960001065 California Inst. of Tech., Irvine, CA, USA
Sines and cosines. Part 2 of 3
Apostol, Tom M., editor; JAN 1, 1993; In English; 29 min. 52 sec. playing time, in color, with sound
Report No(s): NASA-CR-199456; NONP-NASA-VT-95-67471; No Copyright; Avail: CASI: C01, DVD

The Law of Sines and the Law of Cosines are introduced and demonstrated in this 'Project Mathematics' series video using both film footage and computer animation. This video deals primarily with the mathematical field of Trigonometry and explains how these laws were developed and their applications. One significant use is geographical and geological surveying. This includes both the triangulation method and the spirit leveling method. With these methods, it is shown how the height of the tallest mountain in the world, Mt. Everest, was determined.
Author
Cosine Series; Geography; Geological Surveys; Laws; Planetary Mapping; Sine Series; Trigonometry

19960001066 California Inst. of Tech., Irvine, CA, USA
Sines and cosines. Part 1 of 3
Apostol, Tom M., editor; JAN 1, 1992; In English; 28 min. 25 sec. playing time, in color, with sound
Report No(s): NASA-CR-199457; NONP-NASA-VT-95-67472; No Copyright; Avail: CASI: C01, DVD

Applying the concept of similarities, the mathematical principles of circular motion and sine and cosine waves are presented utilizing both film footage and computer animation in this ‘Project Mathematics’ series video. Concepts presented include: the symmetry of sine waves; the cosine (complementary sine) and cosine waves; the use of sines and cosines on coordinate systems; the relationship they have to each other; the definitions and uses of periodic waves, square waves, sawtooth waves; the Gibbs phenomena; the use of sines and cosines as ratios; and the terminology related to sines and cosines (frequency, overtone, octave, intensity, and amplitude).
Author
Coordinates; Cosine Series; Sawtooth Waveforms; Similarity Theorem; Sine Series; Sine Waves; Square Waves; Symmetry; Terminology

19960001067 California Inst. of Tech., Irvine, CA, USA
Similarity
Apostol, Tom M., editor; JAN 1, 1990; In English; 26 min. 55 sec. playing time, in color, with sound
Report No(s): NASA-CR-199458; NONP-NASA-VT-95-67473; No Copyright; Avail: CASI: C01, DVD
In this ‘Project Mathematics! series, sponsored by the California Institute for Technology (CalTech), the mathematical concept of similarity is presented. he history of and real life applications are discussed using actual film footage and computer animation. Terms used and various concepts of size, shape, ratio, area, and volume are demonstrated. The similarity of polygons, solids, congruent triangles, internal ratios, perimeters, and line segments using the previous mentioned concepts are shown.
Author
Polygons; Shapes; Similarity Theorem; Solids; Triangles

19960001068 California Inst. of Tech., Irvine, CA, USA
Polynomials
Apostol, Tom M., editor; Jan 11, 1991; In English; 27 min. 40 sec. playing time, in color, with sound
Report No(s): NASA-CR-199459; NONP-NASA-VT-95-67474; No Copyright; Avail: CASI: C01, DVD
In this ‘Project Mathematics! series, sponsored by California Institute for Technology (CalTech), the mathematical concept of polynomials in rectangular coordinate (x, y) systems are explored. sing film footage of real life applications and computer animation sequences, the history of, the application of, and the different linear coordinate systems for quadratic, cubic, intersecting, and higher degree of polynomials are discussed.
Author
Cartesian Coordinates; Computer Animation; Linear Systems; Polynomials

19960001069 California Inst. of Tech., Irvine, CA, USA
Discovering the Theorem of Pythagoras
Lattanzio, Robert, editor; JAN 1, 1988; In English; 26 min. 20 sec. playing time, in color, with sound
Report No(s): NASA-CR-199460; NONP-NASA-VT-95-67475; No Copyright; Avail: CASI: C01, DVD
In this ‘Project Mathematics! series, sponsored by the California Institute of Technology, Pythagoras’ theorem a(exp2) + b(exp 2) = c(exp 2) is discussed and the history behind this theorem is explained. Through live film footage and computer animation, applications in real life are presented and the significance of and uses for this theorem are put into practice.
Author
Applications of Mathematics; Computer Animation; Theorems

19960001070 California Inst. of Tech., Irvine, CA, USA
The tunnels of Samos
Apostol, Tom M., editor; JAN 1, 1995; In English; 29 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-CR-199461; NONP-NASA-VT-95-67476; No Copyright; Avail: CASI: C01, DVD
This ‘Project Mathematics’ series video from CalTech presents the tunnel of Samos, a famous underground aquaduct tunnel located near the capital of Pithagorion (named after the famed Greek mathematician, Pythagoras, who lived there), on one of the Greek islands. This tunnel was constructed around 600 BC by King Samos and was built under a nearby mountain.

Through film footage and computer animation, the mathematical principles and concepts of why and how this aquaduct tunnel was built are explained.
Author
Applications of Mathematics; Geological Surveys; Greece; Histories; Hydrology; Islands; Waterways

70
PHYSICS (GENERAL)

Includes general research topics related to mechanics, kinetics, magnetism, and electrodynamics. For specific areas of physics see *categories 71 through 77*. For related instrumentation see *35 Instrumentation and Photography*; for geophysics, astrophysics, or solar physics see *46 Geophysics, 90 Astrophysics*, or *92 Solar Physics*.

19940010760 NASA Marshall Space Flight Center, Huntsville, AL, USA
Automated directional solidification furnace
Aug 1, 1989; In English; 1 min. 42 sec. playing time, in color, with sound
Report No(s): MSFC-13233; NASA-TM-109662; NONP-NASA-VT-93-190460; No Copyright; Avail: CASI: C01, DVD

This video presentation addresses space research supporting the development of longer lasting, lighter weight, and more powerful magnets.
CASI
Directional Solidification (Crystals); Furnaces; Magnets

19950016853 NASA Johnson Space Center, Houston, TX, USA
Newton in space
Herbert, Dexter, editor; Mar 4, 1992; In English; 12 min. 35 sec. playing time, in color, with sound
Report No(s): NASA-TM-110535; NONP-NASA-VT-95-43938; No Copyright; Avail: CASI: C01, DVD

In this 'Liftoff to Learning' series video, astronauts (Charles Veach, Gregory Harbaugh, Donald McMonagle, Michael Coats, L. Blaine Hammond, Guion Bluford, Richard Hieb) from the STS-39 Mission use physical experiments and computer animation to explain how weightlessness and gravity affects everything and everyone onboard the Space Shuttle. The physics behind the differences between weight and mass, and the concepts of 'free fall', are demonstrated along with explanations and experiments of Sir Issac Newton's three laws of motion.
CASI
Computer Animation; Earth Gravitation; Gravitational Effects; Microgravity; Newton; Space Shuttle Missions; Space Transportation System Flights; Spaceborne Experiments; Weightlessness

71
ACOUSTICS

Includes sound generation, transmission, and attenuation. For noise pollution see *45 Environment Pollution*. For aircraft noise see also *02 Aerodynamics* and *07 Aircraft Propulsion and Power*.

19940029073 NASA Lewis Research Center, Cleveland, OH, USA
Flying on the ground
JAN 1, 1991; In English; 11 min. 52 sec. playing time, in color, with sound
Report No(s): NASA-TM-109825; NONP-NASA-VT-94-12953; No Copyright; Avail: CASI: C01, DVD

This video details research being conducted at LeRC on aircraft acoustics and the impact of aircraft noise on communities and passengers. The video describes LeRC researchers utilization of a laser Doppler velocimeter to study aircraft and the development of the Advanced Ducted Propeller.
CASI
Aeroacoustics; Aircraft Noise; Noise Pollution; Shrouded Propellers

80
SOCIAL AND INFORMATION SCIENCES (GENERAL)

Includes general research topics related to sociology; educational programs and curricula. For specific topics in these areas see *categories 81 through 85*.

19940009146 NASA Stennis Space Center, Stennis Space Center, MS, USA
Taecannautics: Sharing the dream
Apr 1, 1989; In English; 13 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-109309; NONP-NASA-VT-93-185328; No Copyright; Avail: CASI: C01, DVD
A week-long teacher workshop is described. Highlights include underwater simulation training, model rocket building and launching, map reading, and survival training.
Author (revised)
Environment Simulation; Instructors

19940010757 NASA Marshall Space Flight Center, Huntsville, AL, USA
SHARP
Jan 1, 1989; In English; 7 min. 20 sec. playing time, in color, with sound
Report No(s): MSFC-14171; NASA-TM-109659; NONP-NASA-VT-93-190457; No Copyright; Avail: CASI: C01, DVD
This video describes the benefits of NASA's Summer High School Apprenticeship Research Program to participating students.
CASI
Education; NASA Programs

19940010759 NASA Marshall Space Flight Center, Huntsville, AL, USA
Space classroom
Nov 1, 1990; In English; 2 min. 21 sec. playing time, in color, with sound
Report No(s): MSFC-17816; NASA-TM-109661; NONP-NASA-VT-93-190459; No Copyright; Avail: CASI: C01, DVD
This video presentation provides information on the first classroom taught from space to encourage student interest in astronomy and space exploration.
CASI
Education; NASA Programs

19940010775 NASA, Washington, DC, USA
Enhancing sight
Feb 1, 1990; In English; 3 min. 54 sec. playing time, in color, with sound
Report No(s): ASR-252; NASA-TM-109637; NONP-NASA-VT-93-190435; No Copyright; Avail: CASI: C01, DVD
This video describes a new reading program for people with limited sight.
CASI
Blindness; Optometry; Reading; Vision; Visual Perception; Visual Tasks

19940010867 NASA, Washington, DC, USA
Student researchers
Jul 1, 1990; In English; 3 min. 28 sec. playing time, in color, with sound
Report No(s): ASR-253; NASA-TM-109441; NONP-NASA-VT-93-190238; No Copyright; Avail: CASI: C01, DVD
The video shows students and their NASA-related research at LeRC.
CASI
Research and Development; Students

19940010899 NASA Johnson Space Center, Houston, TX, USA
Short walk to everywhere
Jul 1, 1988; In English; 17 min. 43 sec. playing time, in color, with sound
Report No(s): JSC-1028; NASA-TM-109541; NONP-NASA-VT-93-190338; No Copyright; Avail: CASI: C01, DVD

This video details the activities of the Space, Earth, Ocean Center (SEOC), an environmental residential camp held in the summer for elementary school children. Students are shown participating in hands on activities designed to encourage environmental awareness and interests in the environmental sciences.
CASI
Aerospace Sciences; Children; Earth Sciences; Education; Facilities; Oceanography

19940010945 NASA Lewis Research Center, Cleveland, OH, USA
CORE/TRC
Feb 1, 1990; In English; 7 min. playing time, in color, with sound
Report No(s): LERC-4006; NASA-TM-109434; NONP-NASA-VT-93-190231; No Copyright; Avail: CASI: C01, DVD

This video looks at the Central Operations for Educators in Ohio, and the LeRC Teacher Resource Center.
CASI
Education; Facilities; NASA Programs

19940010947 NASA Lewis Research Center, Cleveland, OH, USA
Spacework 16
Jan 1, 1988; In English; 28 min. playing time, in color, with sound
Report No(s): LERC-3013; NASA-TM-109436; NONP-NASA-VT-93-190233; No Copyright; Avail: CASI: C01, DVD

This video consists of the Simulated Space Shuttle Program for schools and also has clips on wind tunnel research and on JPL's 'Miranda the Movie'.
CASI
Education; Flight Simulation; Miranda; Space Shuttles; Wind Tunnel Tests; Wind Tunnels

19940011031 NASA Lewis Research Center, Cleveland, OH, USA
Challenger Center
Nov 1, 1989; In English; 8 min. 18 sec. playing time, in color, with sound
Report No(s): NASA-TM-109432; NONP-NASA-VT-93-190229; No Copyright; Avail: CASI: C01, DVD

This video explains the objectives of the Challenger Center for Space Education and how it got started.
CASI
Aerospace Sciences; Education; Facilities

19940011032 NASA Lewis Research Center, Cleveland, OH, USA
Challenger Center: Orientation
Jul 1, 1989; In English; 7 min. 40 sec. playing time, in color, with sound
Report No(s): LERC-4004; NASA-TM-109433; NONP-NASA-VT-93-190230; No Copyright; Avail: CASI: C01, DVD

This is a video orientation to the Challenger Center for Space Science Education in Prince Georges County, Maryland.
CASI
Aerospace Sciences; Education; Facilities; NASA Programs; Orientation

19940014509 NASA Marshall Space Flight Center, Huntsville, AL, USA
National Boy Scout Jamboree
Aug 1, 1989; In English; 1 min. 57 sec. playing time, in color, with sound
Report No(s): MSFC-16553; NASA-TM-109367; NONP-NASA-VT-94-198214; No Copyright; Avail: CASI: C01, DVD

This video looks at a NASA sponsored exhibit at the National Boy Scout Jamboree in Fredricksburg, VA. Boy Scouts are

shown interacting with NASA researchers and astronauts and touring mockups of Space Station Freedom and Apollo 11. NASA's program to encourage the researchers of tomorrow is detailed.
CASI
Astronauts; NASA Programs; Students

19940027300 NASA Lewis Research Center, Cleveland, OH, USA
Marsville: The cosmic village
May 1, 1993; In English; 7 min. 30 sec. playing time, in color, with sound
Report No(s): LERC-92-180; NASA-TM-109752; NONP-NASA-VT-94-9952; No Copyright; Avail: CASI: C01, DVD

This video describes an educational student activity sponsored by the Challenger Center for Space Science Education and the Educational Information and Resource Center, which was held at the Lewis Research Center. Marsville was held in May 1992, involving students from schools in three counties around Cleveland. In commemoration of the International Space Year, students worked together to plan a simulated colony on Mars, which culminated in the erection of a balloon tent 'city' at the Lewis Research Center.
CASI
Education; Mars (Planet); NASA Programs; Space Colonies

19940027301 NASA Lewis Research Center, Cleveland, OH, USA
Space acceleration measurement system
May 1, 1993; In English; 23 min. playing time, in color, with sound
Report No(s): LERC-92-212; NASA-TM-109754; NONP-NASA-VT-94-9954; No Copyright; Avail: CASI: C01, DVD

This training video, presented by the Lewis Research Center's Space Experiments Division, gives a background and detailed instructions for preparing the space acceleration measurement system (SAMS) for use. The SAMS measures, conditions, and records forces of low gravity accelerations, and is used to determine the effect of these forces on various experiments performed in microgravity. Inertial sensors are used to measure positive and negative acceleration over a specified frequency range. The video documents the SAMS' uses in different configurations during shuttle missions.
CASI
Acceleration (Physics); Accelerometers; Microgravity; Spaceborne Experiments; Spacecraft Instruments

19940027309 NASA Lewis Research Center, Cleveland, OH, USA
Welcome to the Ohio Aerospace Institute
Nov 1, 1992; In English; 10 min. 22 sec. playing time, in color with souind
Report No(s): LERC-92-204; NASA-TM-109756; NONP-NASA-VT-94-9956; No Copyright; Avail: CASI: C01, DVD

The mission and various programs administered by the Ohio Aerospace Institute, a consortium made up of 9 Ohio Universities, LeRC, and members of the Aerospace Industry are described. The video highlights the following: programs to bring aerospace research to K-12 classrooms; programs to allow graduate students access to laboratory equipment at LeRC; the creation of a statewide television network to link researchers in industry and academia; and focus groups to encourage collaboration between companies in aerospace research.
CASI
Aerospace Engineering; Aerospace Industry; Communication Networks; NASA Programs; Television Systems; University Program

19940027311 NASA Lewis Research Center, Cleveland, OH, USA
NASA report to education, volume 9
Mar 1, 1991; In English; 26 min. 44 sec. playing time, in color, with sound
Report No(s): NASA-TM-109760; NONP-NASA-VT-94-9960; No Copyright; Avail: CASI: C01, DVD

This is an edition of 'NASA Report to Education' covering NASA's Educational Workshop, Lewis Research Center's T-34 and the Space Exploration Initiative. The first segment shows NASA Education Workshop program (NEWEST - NASA Educational Workshops for Elementary School Teachers). Highlights of the 14 days of intense training, lectures, fieldtrips and simple projects that the educators went through to teach the program are included. Participants are shown working on various projects such as the electromagnetic spectrum, living in Space Station Freedom, experience in T-34, tour of tower at the Federal Aviation Administrative Facilities, conducting an egg survival system and an interactive video conference with

astronaut Stori Musgrave. Participants share impressions of the workshop. The second segment tells how Lewis Research Center's T-34 aircraft is used to promote aerospace education in several Cleveland schools and excite students.
CASI
Education; Space Exploration; Spacecraft Survivability; Survival

19940027381 NASA Lewis Research Center, Cleveland, OH, USA
The sky is your classroom
JAN 1, 1982; In English; 28 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-109759; NONP-NASA-VT-94-9959; No Copyright; Avail: CASI: C01, DVD

An overview of NASA's 11th annual Aerospace Education Workshop Program is presented. A portion of activities that are performed during the workshop sessions, which are used to familiarize teachers with up-to-date information are shown. An overview of aerospace concepts and terms is provided. Activities shown include: how model rockets are used to teach about the principles of rocketry; how eggs are packaged to represent an astronaut landing on another planet; a trip to the Cleveland Museum of Natural History was used to introduce a telescope and planetarium; and a visit to LeRC. How lectures and discussion material are presented on such topics as the history of aircraft and the space shuttle is demonstrated.
CASI
Aerospace Sciences; Education; NASA Programs

19940029069 NASA Lewis Research Center, Cleveland, OH, USA
Indianapolis CIP review
Dec 1, 1988; In English; 14 min. 35 sec. playing time, in color, with sound
Report No(s): LERC-4000; NASA-TM-109821; NONP-NASA-VT-94-12949; No Copyright; Avail: CASI: C01, DVD

This video presents the community involvement program at the Indianapolis Children's Museum and Indianapolis Art League.
CASI
Museums; NASA Programs

19950004110 NASA Lewis Research Center, Cleveland, OH, USA
NEWEST 1990 no. 4007
Aug 1, 1990; In English; 15 min. 35 sec. playing time, in color, with sound
Report No(s): LERC-4007; NASA-TM-109936; NONP-NASA-VT-94-23173; No Copyright; Avail: CASI: C01, DVD

Twenty-two teachers go through the NASA Educational Workshops for Elementary School Teachers Program at the Lewis Research Center.
LeRC
Aerospace Sciences; Education; Instructors

19950004111 NASA Lewis Research Center, Cleveland, OH, USA
Anton Grdina Primary Achievement Program
Nov 1, 1993; In English; 29 min. 20 sec. playing time, with sound
Report No(s): LERC-159; NASA-TM-109917; NONP-NASA-VT-94-23159; No Copyright; Avail: CASI: C01, DVD

The Anton project presents a partnership between NASA Lewis, CMHA, and the Cleveland Public Schools. The intent of this project is to empower parents to work with their children in science and math activities.
LeRC
Education; Mathematics; Science

19950004152 NASA Lewis Research Center, Cleveland, OH, USA
\SHARP no. 4010, version 1 and no. 4011, version 2
Dec 1, 1990; In English; 10 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-109930; NONP-NASA-VT-94-23167; No Copyright; Avail: CASI: C01, DVD

Version 1 explains the Summer High School Apprenticeship (SHARP) Program. Version 2 is a tool to interest students in applying for the program.
LeRC
Education; NASA Programs; Transfer of Training

19950023802 NASA Marshall Space Flight Center, Huntsville, AL, USA
International Space University
Kassler, Maggie, editor; Aug 9, 1993; In English; 16 min. 16 sec. playing time, in color, with sound
Report No(s): NASA-TM-110646; NONP-NASA-VT-95-57868; No Copyright; Avail: CASI: C01, DVD

The International Space University (ISU) is described in this video, hosted by Marina Sirtis from the ‘Star Trek’ television show’s Starship Enterprise. A complete explanation of what ISU is, how the university functions, and the benefits that the university provides are described. Included are brief comments from former ISU graduates.
CASI
Space Programs; Universities; University Program

19960001486 NASA Johnson Space Center, Houston, TX, USA
Shaping tomorrow
JAN 1, 1970; In English; 18 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-111078; NONP-NASA-VT-95-65627; No Copyright; Avail: CASI: C01, DVD

The development, history, and opportunities for employment available at the Johnson Space Center (JSC) in Houston, Texas are presented in this video, with special emphasis placed on minorities in the aeronautical engineering fields and at JSC. There are several interviews with black, Hispanic and female engineering and aeronautics professionals and the various projects they work on.
Author
Houston (TX); Minorities; NASA Space Programs; Research Projects

19980040284 NASA Lewis Research Center, Cleveland, OH USA
Fastener Design Course
Barrett, Richard T.; Jun. 1997; 384 pp.; In English; Set of 9 Videos: 7 hrs., playing time, in color, with sound
Report No(s): NASA/TM-1997-207862; NONP-NASA-VT-1998118421; No Copyright; Avail: CASI: C01, DVD; Accompanying hardcopy;
ONLINE: http://hdl.handle.net/2060/19980040284

Richard T. Barrett, Senior Aerospace Engineer of NASA Lewis Research Center presents a comprehensive course on fastener design. A recognized expert in the field of fastener technology Mr. Barrett combines lecture, charts, illustrations with real-world experiences. Topics covered include: materials, plantings and coatings, locking methods threads, joint stiffness, rivets, inserts, nut plates, thread lubricants, design criteria, etc. A workbook accompanies the video.
Author
Lectures; Fasteners; Design Analysis

81
ADMINISTRATION AND MANAGEMENT

Includes management planning and research.

19940009156 NASA Goddard Space Flight Center, Greenbelt, MD, USA
NASA experiences in the Goddard MMS
Jan 1, 1989; In English; 33 min. 20 sec. playing time, in color, with sound
Report No(s): GSFC-S-24; NASA-TM-109290; NONP-NASA-VT-93-185305; No Copyright; Avail: CASI: C01, DVD

The GSFC connection in the multi-mission spacecraft management field is explored.
Author (revised)
Multimission Modular Spacecraft; NASA Programs

19940010761 NASA Marshall Space Flight Center, Huntsville, AL, USA

Return to flight 1

Sep 1, 1987; In English; 17 min. 21 sec. playing time, in color, with sound

Report No(s): MSFC-14245; NASA-TM-109663; NONP-NASA-VT-93-190461; No Copyright; Avail: CASI: C01, DVD

This video presents a dynamic overview of the hard work and tireless efforts of NASA employees and contractors.

CASI

NASA Programs; Research and Development

19940010820 NASA Goddard Space Flight Center, Greenbelt, MD, USA

PET team

Mar 1, 1989; In English; 15 min. playing time, in color, with sound

Report No(s): MSFC-13056; NASA-TM-109599; NONP-NASA-VT-93-190397; No Copyright; Avail: CASI: C01, DVD

This video shows the Productivity Enhancement Team's (PET) presentation to management regarding ways to make the workforce more responsive to overall corporate goals.

CASI

Organizations; Personnel Development; Productivity

19940010846 NASA Marshall Space Flight Center, Huntsville, AL, USA

Return to flight 3, the journey continues

Feb 1, 1989; In English; 15 min. 17 sec. playing time, in color, with sound

Report No(s): MSFC-14858; NASA-TM-109651; NONP-NASA-VT-93-190449; No Copyright; Avail: CASI: C01, DVD

This video presents a dynamic overview of the hard work and tireless efforts of NASA employees and contractors.

CASI

NASA Programs; Personnel

19940010894 NASA Johnson Space Center, Houston, TX, USA

Cohen program management briefing

Dec 1, 1989; In English; 55 min. playing time, in color, with sound

Report No(s): JSC-1150; NASA-TM-109536; NONP-NASA-VT-93-190333; No Copyright; Avail: CASI: C01, DVD

Dr. Aaron Cohen, Director of NASA Johnson Space Center, discusses management issues as they have appeared in the manned space flight programs.

CASI

Manned Space Flight; NASA Programs; Project Management

19940029075 NASA Lewis Research Center, Cleveland, OH, USA

The second giant leap

JAN 1, 1991; In English; 15 min. 5 sec. playing time, in color, with sound

Report No(s): LERC-CV-103; NASA-TM-109827; NONP-NASA-VT-94-12955; No Copyright; Avail: CASI: C01, DVD

This video describes the purpose and activities of the Office of Space Commercialization at LeRC. The office promotes interactions between industry and NASA researchers, and promotes the benefits of microgravity research. Examples of knowledge transfer in the production of airplanes and farm equipment are shown.

CASI

Government/Industry Relations; Microgravity; Space Commercialization

19950020789 National Inst. of Standards and Technology, Gaithersburg, MD, USA

STEP: A futurevision, today

JAN 1, 1994; In English; 9 min. 50 sec. playing time, in color, with sound

Report No(s): NONP-NASA-VT-95-49121; No Copyright; Avail: CASI: C01, DVD

STEP (STandard for the Exchange of Product Model Data) is an innovative software tool that allows the exchange of data between different programming systems to occur and helps speed up the designing in various process industries. This exchange occurs easily between those companies that have STEP, and many industries and government agencies are requiring that their

vendors utilize STEP in their computer aided design projects, such as in the areas of mechanical, aeronautical, and electrical engineering. STEP allows the process of concurrent engineering to occur and increases the quality of the design product. One example of the STEP program is the Boeing 777, the first paperless airplane.
CASI
Computer Aided Design; Computer Programming; Computer Programs; Concurrent Engineering; Data Processing; Data Transfer (Computers); Government/Industry Relations; Process Control (Industry); Quality Control

19950022749 NASA, Washington, DC, USA
NASA: The state of the agency
Oct 7, 1992; In English; 19 min. 37 sec. playing time, in color, with sound
Report No(s): NASA-TM-110563; NONP-NASA-VT-95-45998; No Copyright; Avail: CASI: C01, DVD

NASA's challenges, accomplishments, and goals are described in this video. Historical footage of man's first lunar walk are shown and there are brief descriptions covering several of NASA's major projects, such as: Skylab; Viking Voyager; Coby; and the 1990 Hubble Space Telescope.
CASI
Histories; NASA Programs; Research Projects; Technology Assessment

19950022750 NASA, Washington, DC, USA
An announcement by Dan Goldin
Oct 15, 1992; In English; 15 min. 45 sec. playing time, in color, with sound
Report No(s): NASA-TM-110739; NONP-NASA-VT-95-45999; No Copyright; Avail: CASI: C01, DVD

Daniel S. Goldin (NASA Administrator) announces the reconstruction of several NASA programs and management structural changes. The upcoming developments for Space Station Freedom, the Office of Space Science Applications (OSSA), and the field of Aeronautics are discussed.
CASI
Aerospace Industry; Management Planning; NASA Programs; Personnel Management; Technological Forecasting; Trends

82
DOCUMENTATION AND INFORMATION SCIENCE

Includes information management; information storage and retrieval technology; technical writing; graphic arts; and micrography. For computer program documentation see *61 Computer Programming and Software*.

19940010758 NASA Marshall Space Flight Center, Huntsville, AL, USA
University Joint Venture: JOVE
Mar 1, 1989; In English; 2 min. 12 sec. playing time, in color, with sound
Report No(s): MSFC-14546; NASA-TM-109660; NONP-NASA-VT-93-190458; No Copyright; Avail: CASI: C01, DVD

This video presentation explains how NASA shares its several trillion bits of raw science and engineering data with universities who help NASA analyze and distribute that data.
CASI
NASA Programs; University Program

19940010778 NASA, Washington, DC, USA
Monitoring history
Jun 1, 1987; In English; 3 min. 25 sec. playing time, in color, with sound
Report No(s): ASR-244; NASA-TM-109640; NONP-NASA-VT-93-190438; No Copyright; Avail: CASI: C01, DVD

Deep space technology is applied to help monitor the aging process of the treasured documents in the National Archives.
CASI
Aerospace Technology Transfer; Aging (Materials); Documents; Records; Records Management; Technology Utilization

19940010827 NASA Johnson Space Center, Houston, TX, USA
Text and graphics systems
Mar 1, 1989; In English; 1 min. 55 sec. playing time, in color, with sound
Report No(s): JSC-1110; NASA-TM-109570; NONP-NASA-VT-93-190368; No Copyright; Avail: CASI: C01, DVD

This video shows Text and Graphics Systems (TAGS) in action and describes how the system will be used on Space Shuttle missions.

CASI

Computer Graphics; Space Shuttle Missions

19940011047 NASA, Washington, DC, USA
Medical imaging
Jun 1, 1986; In English; 3 min. 40 sec. playing time, in color, with sound
Report No(s): ASR-240; NASA-TM-109675; NONP-NASA-VT-93-190473; No Copyright; Avail: CASI: C01, DVD

This video shows how satellite data processing techniques (multispectral scanning) can improve disease detection and treatment.

CASI

Diagnosis; Diseases; Imaging Techniques; Medical Equipment; Multispectral Band Scanners; Scanning; Technology Transfer

19940011050 NASA Stennis Space Center, Stennis Space Center, MS, USA
Coast encounters: A space age adventure in science literacy
Apr 1, 1989; In English; 6 min. 20 sec. playing time, in color, with sound
Report No(s): NASA-TM-109334; NONP-NASA-VT-93-190475; No Copyright; Avail: CASI: C01, DVD

This video recaps the NASA Community Involvement Program for education held on the Mississippi Gulf Coast, April 1989.

CASI

Aerospace Sciences; Education; NASA Programs

19950004161 NASA Lewis Research Center, Cleveland, OH, USA
STI: Managing a universe of information
JAN 1, 1992; In English; 7 min. playing time
Report No(s): NASA-TM-109946; NONP-NASA-VT-94-23626; No Copyright; Avail: CASI: C01, DVD

This video highlights the NASA STI Program, its mission and key elements and how the program manages the ever growing universe of scientific and technical information. The mission of the program is to provide world-wide access to aerospace-related scientific and technical information. A key element of the program is a massive online database of more than three million citations to technical reports and journal literature, acquired, processed and disseminated by the NASA STI Program.

LeRC

Data Bases; Information Management

19950020788 National Inst. of Standards and Technology, Gaithersburg, MD, USA
NIST: Information management in the AMRF
Callaghan, George, editor; Nov 1, 1991; In English; 12 min. 30 sec. playing time, in color, with sound
Report No(s): NONP-NASA-VT-95-49120; No Copyright; Avail: CASI: C01, DVD

The information management strategies developed for the NIST Automated Manufacturing Research Facility (AMRF) - a prototype small batch manufacturing facility used for integration and measurement related standards research are outlined in this video. The five major manufacturing functions - design, process planning, off-line programming, shop floor control, and materials processing are explained and their applications demonstrated.

Author (revised)

Automatic Control; Computer Aided Design; Concurrent Engineering; Control Equipment; Control Systems Design; Government/Industry Relations; Information Management; Mechanical Engineering; Process Control (Industry); Prototypes; Research Facilities

19980005607 Commerce Energy NASA NLM Defense Information Cataloging Committee, Washington, DC USA
The future of bibliographic standards in a networked information environment
Apr. 16, 1997; In English; CENDI Workshop, 16 Apr. 1997, Bethesda, MD, USA; 5 hrs. 51 min. playing time, in color, with sound
Report No(s): NASA/TM-97-113452; NONP-NASA-VT-1998000466; No Copyright; Avail: CASI: C01, DVD

The main mission of the CENDI Cataloging Working Group is to provide guidelines for cataloging practices that support the sharing of database records among the CENDI agencies, and that incorporate principles based on cost effectiveness and efficiency. Recent efforts include the extension of COSATI Guidelines for the Cataloging of Technical Reports to include non-print materials, and the mapping of each agency's export file structure to USMARC. Of primary importance is the impact of electronic documents and the distributed nature of the networked information environment. Topics discussed during the workshop include the following: Trade-offs in Cataloging and Indexing Internet Information; The Impact on Current and Future Standards; A Look at WWW Metadata Initiatives; Standards for Electronic Journals; The Present and Future Search Engines; The Roles for Text Analysis Software; Advanced Search Engine Meets Metathesaurus; Locator Schemes for Internet Resources; Identifying and Cataloging Web Document Types; In Search of a New Bibliographic Record. The videos in this set include viewgraphs of charts and related materials of the workshop.

CASI

Catalogs (Publications); Bibliographies; Cost Effectiveness; Data Management; Data Bases; Indexes (Documentation); Internets; Texts

85
TECHNOLOGY UTILIZATION AND SURFACE TRANSPORTATION

Includes aerospace technology transfer; urban technology; surface and mass transportation. For related information see also *03 Air Transportation and Safety, 16 Space Transportation and Safety*, and *44 Energy Production and Conversion*. For specific technology transfer applications see also the category where the subject is treated.

19940010776 NASA, Washington, DC, USA
From space to Earth
Jun 1, 1987; In English; 3 min. 30 sec. playing time, in color, with sound
Report No(s): ASR-244; NASA-TM-109638; NONP-NASA-VT-93-190436; No Copyright; Avail: CASI: C01, DVD

This video presents a few NASA spinoffs, including Statue of Liberty paint, Unistick, an ocular screening device, and running shoes.

CASI

Aerospace Technology Transfer; Industries; NASA Programs; Technology Transfer; Technology Utilization

19940010864 NASA Lewis Research Center, Cleveland, OH, USA
NASA images 7
Mar 1, 1988; In English; 27 min. 49 sec. playing time, in color, with sound
Report No(s): LERC-3003; NASA-TM-109438; NONP-NASA-VT-93-190235; No Copyright; Avail: CASI: C01, DVD

This video shows how space derived technology is being used to benefit people on Earth.

CASI

Aerospace Engineering; Aerospace Technology Transfer; NASA Programs; Technology Utilization

19940010866 NASA Lewis Research Center, Cleveland, OH, USA
NASA images 16
May 1, 1988; In English; 28 min. 25 sec. playing time, in color, with sound
Report No(s): LERC-3012; NASA-TM-109440; NONP-NASA-VT-93-190237; No Copyright; Avail: CASI: C01, DVD

The video describes NASA technology that is in everyday use.

CASI

NASA Programs; Technology Utilization

19940029063 NASA, Washington, DC, USA

Refocusing space technology

May 1, 1994; In English; 7 min. 25 sec. playing time, in color, with sound

Report No(s): NASA-TM-109833; NONP-NASA-VT-94-12961; ASR-266; No Copyright; Avail: CASI: C01, DVD

This video presents two examples of NASA Technology Transfer. The first is a Downhole Video Logger, which uses remote sensing technology to help in mining. The second example is the use of satellite image processing technology to enhance ultrasound images taken during pregnancy.

CASI

Aerospace Technology Transfer; Imaging Techniques; Remote Sensing; Satellite Imagery; Technology Utilization; Ultrasonics

19950004149 NASA, Washington, DC, USA

Advanced microsensors

Aug 1, 1991; In English; 2 min. 59 sec. playing time, with sound

Report No(s): NASA-TM-109903; NONP-NASA-VT-94-23145; ASR-257; No Copyright; Avail: CASI: C01, DVD

This video looks at a spinoff application of the technology from advanced microsensors -- those that monitor and determine conditions of spacecraft like the Space Shuttle. The application featured is concerned with the monitoring of the health of premature babies.

CASI

Aerospace Technology Transfer; Bioinstrumentation; Sensors

88
SPACE SCIENCES (GENERAL)

Includes general research topics related to the natural space sciences. For specific topics in space sciences see *categories 89 through 93*.

19950017776 NASA Johnson Space Center, Houston, TX, USA

Space basic

Herbert, Dexter, editor; Jan 2, 1991; In English; 20 min. 55 sec. playing time, in color, with sound

Report No(s): NASA-TM-110540; NONP-NASA-VT-95-43943; No Copyright; Avail: CASI: C01, DVD

In this education video series, ‘Liftoff to Learning’, astronauts (Bruce Melnick, Thomas Akers, William Shepherd, Robert Cabana, and Richard Richards) describe the historical beginnings of space exploration from the time of Robert H. Goddard (considered the Father of Rocketry), who, in 1929, invented the first propellant rocket, the prototype of modern liquid propellant rockets, up to the modern Space Shuttles. The questions - where is space, what is space, and how do astronauts get to, stay in, and come back from space are answered through historical footage, computer graphics, and animation. The space environment effects, temperature effects, and gravitational effects on the launching, orbiting, and descent of the Shuttles are discussed. Included is historical still photos and film footage of past space programs and space vehicles.

CASI

Aerospace Environments; Descent; Histories; Photographic Film; Prototypes; Space Exploration; Space Programs; Space Shuttles; Spacecraft; Spacecraft Launching; Spacecraft Orbits; Uncontrolled Reentry (Spacecraft)

20040201039 NASA, Washington, DC, USA

The Plasma Universe

[2004]; In English; 1 hr., 59 min. playing time, in color, with sound; No Copyright; Avail: CASI: C01, DVD

Dr. France Cordova, NASA’s Chief Scientist, chaired this, the eighth seminar in the Administrator’s Seminar Series. She introduced the NASA Administrator, Daniel S. Goldin, who, in turn, introduced the subject of plasma. Plasma, an ionized gas, is a function of temperature and density. We ve learned that, at Jupiter, the radiation is dense. But, Goldin asked, what else do we know? Dr. Cordova then introduced Dr. James Van Allen, for whom the Van Allen radiation belt was named. Dr. Van Allen, a member of the University of Iowa faculty, discussed the growing interest in practical applications of space physics, including radiation fields and particles, plasmas and ionospheres. He listed a hierarchy of magnetic fields, beginning at the top, as pulsars, the Sun, planets, interplanetary medium, and interstellar medium. He pointed out that we have investigated eight of the nine known planets,. He listed three basic energy sources as 1) kinetic energy from flowing plasma such as constitutional solar wind or interstellar wind; 2) rotational energy of the planet, and 3) orbital energy of satellites. He believes there are seven

sources of energetic particles and five potential places where particles may go. The next speaker, Dr. Ian Axford of New Zealand, has been associated with the Max Planck Institut fuer Aeronomie and plasma physics. He has studied solar and galactic winds and clusters of galaxies of which there are several thousand. He believes that the solar wind temperature is in the millions of degrees. The final speaker was Dr. Roger Blanford of the California Institute of Technology. He classified extreme plasmas as lab plasmas and cosmic plasmas. Cosmic plasmas are from supernovae remnants. These have supplied us with heavy elements and may come via a shock front of 10(sup 15) electron volts. To understand the physics of plasma, one must learn about x-rays, the maximum energy of acceleration by supernova remnants, particle acceleration and composition of cosmic rays, maximum acceleration, and how fast protons are heated by ions. He asked questions about where high energy cosmic rays are made, what accelerates electrons, radiates gamma rays, makes electronpositron plasma, and finally noted that pulsars are good time keepers, but we need a better understanding of their mechanism and of plasmas, both cosmic and ground-based. In the discussion period, Goldin asked if NASA should put up an x-ray interferometer. The answer was no; gamma rays are of greater interest just now. Goldin also asked what the assembled scientists would like to see for a future mission? They expressed an interest in learning more about the origin of galaxies, cosmic rays, solar systems, planets, the existence of life 'out there', gamma ray sources, the nature of gamma ray bursts, and the flow of gases around black holes. The discussion concluded with a suggestion that NASA should communicate to the general public more information regarding actual technological trials and tribulations involved in getting an experiment to work. The speakers thought that this would help non-scientists to better appreciate what it is that NASA does in connection with the benefits that are achieved.
Derived from text
Plasma Physics; Ionized Gases; Temperature Dependence; Density (Mass/Volume); Radiation Belts; Pulsars

89
ASTRONOMY

Includes observations of celestial bodies; astronomical instruments and techniques; radio, gamma-ray, x-ray, ultraviolet, and infrared astronomy; and astrometry.

19940009132 NASA, Washington, DC, USA
The four great observatories
Dec 1, 1986; In English; 5 min. 40 sec. playing time, in color, with sound
Report No(s): ASR-242; NASA-TM-109311; NONP-NASA-VT-93-185318; No Copyright; Avail: CASI: C01, DVD

This video presentation introduces the Hubble Space Telescope, Gamma Ray Observatory, Advanced X-ray Astrophysics Facility (AXAF), and the Shuttle Infrared Telescope Facility (SIRTF).
Author
Astronomical Observatories; Gamma Ray Observatory; Hubble Space Telescope; Space Infrared Telescope Facility; Spaceborne Telescopes; X Ray Astrophysics Facility

19940010838 NASA, Washington, DC, USA
Lunar ranging
Aug 1, 1985; In English; 4 min. 38 sec. playing time, in color, with sound
Report No(s): ASR-238; NASA-TM-109603; NONP-NASA-VT-93-190401; No Copyright; Avail: CASI: C01, DVD

This video describes the work at the Lure observatory (Hawaii) in the area of Lunar rangefinding. This work uses laser technology to range the moon with an accuracy of one inch.
CASI
Laser Applications; Laser Range Finders; Lunar Rangefinding; Observatories

19940010949 NASA Goddard Space Flight Center, Greenbelt, MD, USA
NASA's Hubble Space Telescope: The challenge and complexity of operations
Jun 1, 1989; In English; 16 min. 5 sec. playing time, in color, with sound
Report No(s): GSFC-T-24; NASA-TM-109577; NONP-NASA-VT-93-190375; No Copyright; Avail: CASI: C01, DVD

This video presentation touches on the truly fast complexity of the first of NASA's great observatories, the Hubble Space Telescope.
CASI
Hubble Space Telescope; NASA Space Programs

19940014599 NASA, Washington, DC, USA
Hubble Space Telescope
Feb 1, 1990; In English; 2 min. 28 sec. playing time, in color, with sound
Report No(s): ASR-252; NASA-TM-109359; NONP-NASA-VT-94-198206; No Copyright; Avail: CASI: C01, DVD

An overview of the mission of the Hubble Space Telescope, a joint project between NASA and the European Space Agency which will be used to study deep space, as well as our solar system is presented. The video contains animations depicting the Hubble Space Telescope in orbit, as well as footage of scientists at the Space Telescope Science Institute making real time observations. The images Hubble acquires will be downloaded into a database that contains images of over 19,000,0000 celestial objects called the Star Catalog.
CASI
Hubble Space Telescope; Space Observations (From Earth)

19950004133 NASA Goddard Space Flight Center, Greenbelt, MD, USA
BBXRT clip: The Broad Band X-ray Telescope
May 1, 1990; In English; 18 min. playing time
Report No(s): GSFC-NL-13; NASA-TM-109875; NONP-NASA-VT-94-23137; No Copyright; Avail: CASI: C01, DVD

This video recording explains the science mission of the Broad Band X ray Telescope on board the Space Shuttle Columbia, December 1990. This tape was produced before launch.
GSFC
Broadband; Space Shuttle Missions; X Ray Telescopes

19950022751 Tokyo Univ., Japan
Yohkoh Soft X-ray Telescope
Apr 21, 1992; In English; 6 min. playing time, in color, with sound
Report No(s): NASA-CR-197655; HQ-92-03L; NONP-NASA-VT-95-46000; No Copyright; Avail: CASI: C01, DVD

This video describes the Soft X-Ray Telescope (SXT), Yohkoh. This is a cooperative program between NASA and the Institute for Space and Astronautical Science of Japan. Images of the Suns rotation were obtained with the SXT.
CASI
International Cooperation; Japanese Space Program; NASA Space Programs; Universities; X Ray Astronomy; X Ray Telescopes

19950023896 NASA, Washington, DC, USA
Space astronomy update
Jun 6, 1995; In English; 38 min. playing time, in color, with sound
Report No(s): NASA-TM-110754; NONP-NASA-VT-95-56622; No Copyright; Avail: CASI: C01, DVD

A discussion of the images obtained by NASA’s Hubble Space Telescope (HST) is featured on this video. The discussion panel consists of Dr. Jeff Hester (Arizona State Univ.), Dr. Jon Morse (Space Telescope Science Inst.), Dr. Chris Burrows (European Space Agency), Dr. Bruce Margon (Univ. of Washington), and host Don Savage (Goddard Space Flight Center). A variety of graphics and explanations are provided for the images of star formations and other astronomical features that were viewed by the HST.
Author
Astronomical Photography; Celestial Bodies; Hubble Space Telescope; Spaceborne Astronomy; Star Formation; Ultraviolet Astronomy; Ultraviolet Spectra

19950024678 Interface, Inc., Fort Collins, CO, USA
NASA space astronomy update 6
Oct 1, 1992; In English; 6 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-CR-197664; NONP-NASA-VT-95-46007; No Copyright; Avail: CASI: C01, DVD

Professor Stu Bowyer (University of California at Berkeley) explains the Extreme Ultraviolet Explorer and its telescope

in this video. Both instrument and satellite are kept in perfect working condition. The satellite picks up extra galactic objects outside our galaxy.
CASI
Extreme Ultraviolet Explorer Satellite; NASA Space Programs; Spaceborne Astronomy; Ultraviolet Astronomy; Ultraviolet Telescopes

19970036208 NASA Johnson Space Center, Houston, TX USA
Best of Hubble Space Telescope
Feb. 18, 1997; In English; 90 min. playing time, in color, with sound
Report No(s): NASA/TM-97-205921; NONP-NASA-VT-1997077165; No Copyright; Avail: CASI: C01, DVD

This video presents a chronological account of the Hubble Space Telescope. Using animation, movies, and stills it documents the design, development, launch, and repair mission to correct its optics. The second part of this video concentrates on the successes of Hubble. Included are the study of Galaxy Clusters, Black Holes, Jupiter animation, and Nebulas.
CASI
Hubble Space Telescope; Galactic Clusters; Nebulae; Jupiter (Planet); Star Clusters; Spaceborne Astronomy

19970036313 NASA Johnson Space Center, Houston, TX USA
Hubble Images from 1996
Jan. 28, 1997; In English; 14 min. 33 sec. playing time, in color, with sound
Report No(s): NASA/TM-97-112576; NONP-NASA-VT-1997082306; No Copyright; Avail: CASI: C01, DVD

Primarily composed of animation, movies, and stills, this video is divided into 12 segments or slugs as the video refers to them. They are: Global Map of Pluto, Images of Pluto, Surface Map of Pluto, Helix Nebula- NGC 7293, Gaseous Knots, Animation of the Formation of the Helix Nebula, Crab Nebula, Jupiter Aurora Movie, Birth of a Quasar, Merging Galaxies, and Spiral Galaxies.
CASI
Hubble Space Telescope; Crab Nebula; Spiral Galaxies; Quasars; Space Exploration

90
ASTROPHYSICS

Includes cosmology; celestial mechanics; space plasmas; and interstellar and interplanetary gases and dust.

19940011022 NASA Ames Research Center, Moffett Field, CA, USA
Pioneer-Venus press clip
May 1, 1988; In English; 11 min. playing time, in color, with sound
Report No(s): AAV-214; NASA-TM-109425; NONP-NASA-VT-93-190222; No Copyright; Avail: CASI: C01, DVD

This video shows, with high quality animation, the formation of the Solar System: comets, Jupiter, Europa, Saturn, Titan, Mars, the Sun, and early Earth. The focus is on life elsewhere in the Solar System. The recording was prepared for a news conference.
CASI
Extraterrestrial Life; Pioneer Venus Spacecraft; Planetary Evolution; Solar System Evolution

19940029056 NASA, Washington, DC, USA
Comet impact 1994 animation reel
Apr 1, 1994; In English; 6 min. 28 sec. playing time, in color, with sound
Report No(s): NASA-TM-109810; NONP-NASA-VT-94-12938; No Copyright; Avail: CASI: C01, DVD

This video contains computer generated simulations of the impact of comet Shoemaker-Levy 9 with Jupiter that will take place in July 1994. The simulations display the event from a number of vantage points including earth view, views from orbit, and views from the surface of Jupiter's moons.
CASI
Cometary Collisions; Hypervelocity Impact; Jupiter (Planet); Scientific Visualization; Shoemaker-Levy 9 Comet

19940029095 NASA, Washington, DC, USA
Aeronautics and Space Reports number 267: Comet impacts Jupiter
Jun 1, 1994; In English; 15 min. 48 sec. playing time, in color, with sound
Report No(s): NASA-TM-109841; NONP-NASA-VT-94-13198; ASR-267; No Copyright; Avail: CASI: C01, DVD

This video contains three different segments of computer generated simulations of the impact of comet Shoemaker-Levy 9 with Jupiter that will take place in July 1994. It includes interviews with Shoemaker and Levy, discussing pictures taken at Mt. Kalamar Observatory, the comets approach to Jupiter, fragment size, and the affects of the comets impact on Jupiter and its atmosphere. The impact will be viewed by the Galileo Spacecraft.

CASI

Cometary Collisions; Computerized Simulation; Jupiter (Planet); Shoemaker-Levy 9 Comet

20010019528 Space Telescope Science Inst., USA
Black Holes Shed Light on Galaxy Formation
[2000]; In English; 13 min. 10 sec. playing time, in color, with sound
Report No(s): NONP-NASA-VT-2001026551; No Copyright; Avail: CASI: C01, DVD

This video is comprised of several segments of animations on black holes and galaxy formation, and several segments of an interview with Dr. John Kormendy. The animation segments are: (1) a super massive black hole, (2) Centarus A active black hole found in a collision, (3) galaxy NGC-4261 (active black hole and jet model), (4) galaxy M-32 (orbits of stars are effected by the gravity of the black hole), (5) galaxy M-37 (motion of stars increases as mass of black hole increases), (6) Birth of active galactic nuclei, (7) the collision of two galaxy leads to merger of the black holes, (8) Centarus A and simulation of the collision of 2 galaxies. There are also several segments of an interview with John Kormendy. In these segments he discusses the two most important aspects of his recent black hole work: (1) the correlations between galaxies speed and the mass of the black holes, and (2) the existence of black holes and galactic formation. He also discusses the importance of the Hubble Space Telescope and the Space Telescope Imaging Spectrograph to the study of black holes. He also shows the methodology of processing images from the spectrograph in his office.

CASI

Hubble Space Telescope; Black Holes (Astronomy); Collisions; Galaxies; Simulation; Galactic Structure

20010019529 Space Telescope Science Inst., USA
Hubble Identifies Source of Ultraviolet Light in an Old Galaxy
[2000]; In English; 3 min. 47 sec. playing time, in color, no sound
Report No(s): NONP-NASA-VT-2001026548; No Copyright; Avail: CASI: C01, DVD

This video is comprised of four segments: (1) a Video zoom in on galaxy M32 using ground images, (2) Hubble images of galaxy M32, (3) Ground base color image of galaxies M31 and M32, and (4) Black and white ground based images of galaxy M32.

Author

Ultraviolet Radiation; Andromeda Galaxy; Elliptical Galaxies

20010019695 Space Telescope Science Inst., Baltimore, MD USA
Orion Nebula Movie
Feb. 01, 2001; In English; 5 min. 11 sec. playing time, in color, no sound
Report No(s): NONP-NASA-VT-2001026555; No Copyright; Avail: CASI: C01, DVD

Footage shows the following simulations derived from Hubble Space Telescope images: (1) the tiling of the Orion mosaic; (2) Orion mosaic fly-through; and (3) a close-up of the Orion mosaic.

CASI

Orion Nebula; Simulation

20010019696 Space Telescope Science Inst., Baltimore, MD USA
The Secret Lives of Galaxies
Feb. 01, 2001; In English; 3 min. 53 sec. playing time, in color, no sound
Report No(s): NONP-NASA-VT-2001026546; No Copyright; Avail: CASI: C01, DVD

The ground-based image in visible light locates the hub imaged with the Hubble Space Telescope. This barred galaxy

feeds material into its hub, igniting star birth. The Hubble NICMOS instrument penetrates beneath the dust to reveal clusters of young stars. Footage shows ground-based, WFPC2, and NICMOS images of NGS 1365. An animation of a large spiral galaxy zooms from the edge to the galactic bulge.
Author (revised)
Barred Galaxies; Galactic Bulge; Spiral Galaxies; Star Clusters

20010019697 Space Telescope Science Inst., Baltimore, MD USA
Giant Star Clusters Near Galactic Core
Feb. 01, 2001; In English; 4 min. 11 sec. playing time, in color, with sound
Report No(s): NONP-NASA-VT-2001026545; No Copyright; Avail: CASI: C01, DVD

A video sequence of still images goes deep into the Milky Way galaxy to the Arches Cluster. Hubble, penetrating through dust and clouds, peers into the core where two giant clusters shine more brightly than any other clusters in the galaxy. Footage shows the following still images: (1) wide view of Sagittarius constellation; (2) the Palomar Observatory's 2 micron all-sky survey; and (3) an image of the Arches Cluster taken with the Hubble Space Telescope NICMOS instrument. Dr. Don Figer of the Space Telescope Science Institute discusses the significance of the observations and relates his first reaction to the images.
Author (revised)
Galactic Nuclei; Star Clusters; Giant Stars; Sagittarius Constellation

20010019896 Space Telescope Science Inst., USA
Astronomers Ponder Lack of Planets in Globular Cluster
[2000]; In English; 7 min. 58 sec. playing time, in color, with sound
Report No(s): NONP-NASA-VT-2001026553; No Copyright; Avail: CASI: C01, DVD

This video has seven segments, discussing and showing the evidence for the proposition that the galactic clusters do not have many planets. Specifically the segments show: (1) Dr. Ron Gilliland discussing the process of looking for 'Hot Jupiters' (i.e., planets about the size of Jupiter, which are hotter than Jupiter) in the globular clusters, (2) a zoom into 47 Tucanae globular cluster, (3) an animation of a planet passing between the host star and the earth with a brightness graph, (4) the same animation as before without the graph, (5) Ron Gilliland of the Space Telescope Science Institute (STScI) discussing possible interpretations of his findings in the 47 Tucanae globular cluster, (6) Ron Gilliland examining the images of 47 Tucanae, and (7) images of 47 Tucanae watching for variations in brightness.
CASI
Galactic Clusters; Star Clusters; Extrasolar Planets; Gas Giant Planets

20010036751 Space Telescope Science Inst., Baltimore, MD USA
Quasar Host Galaxies/Neptune Rotation/Galaxy Building Blocks/Hubble Deep Field/Saturn Storm
[2001]; In English; 13 min. 57 sec. playing time, in color, no sound
Report No(s): NONP-NASA-VT-2001026556; No Copyright; Avail: CASI: C01, DVD

Computerized animations simulate a quasar erupting in the core of a normal spiral galaxy, the collision of two interacting galaxies, and the evolution of the universe. Hubble Space Telescope (HST) images show six quasars' host galaxies (including spirals, ellipticals, and colliding galaxies) and six clumps of galaxies approximately 11 billion light years away. A false color time lapse movie of Neptune displays the planet's 16-hour rotation, and the evolution of a storm on Saturn is seen though a video of the planet's rotation. A zoom sequence starts with a ground-based image of the constellation Ursa major and ends with the Hubble Deep Field through progressively narrower and deeper views.
CASI
Computerized Simulation; Galactic Evolution; Galaxies; Interacting Galaxies; Neptune (Planet); Quasars; Saturn (Planet)

20010036752 Space Telescope Science Inst., Baltimore, MD USA
Spinning Stardust into Planets
[2001]; In English; 6 min. 19 sec. playing time, in color, with sound
Report No(s): NONP-NASA-VT-2001026554; No Copyright; Avail: CASI: C01, DVD

A computerized animation simulates the formation of a stellar disk and planets. Ten images from the Hubble Space Telescope (HST) show young stellar disks (taken with the Near-Infrared Camera Multi-Object Spectrometer (NICMOS)) and

stellar disks around young stars (taken with the Wide-Field Planetary Camera 2 (WFPC2)). Dr. Deborah Padgett describes what astronomers see in the images of young stellar disks and Dr. Karl Stapelfeldt explains HST's role in helping astronomers to examine young stars in order to understand how solar systems like our own may form.
CASI
Planetary Evolution; Planets; Stellar Models; Computerized Simulation; Protoplanetary Disks

20010036753 Space Telescope Science Inst., Baltimore, MD USA
The Trifid Nebula: Stellar Sibling Rivalry
[2001]; In English; 3 min. 55 sec. playing time, in color, no sound
Report No(s): NONP-NASA-VT-2001026552; No Copyright; Avail: CASI: C01, DVD

A zoom into the Trifid Nebula starts with ground-based observations and ends with a Hubble Space Telescope (HST) image. Another HST image shows star formation in the nebula and the video concludes with a ground-based image of the Trifid Nebula.
CASI
Nebulae; Star Formation

91
LUNAR AND PLANETARY SCIENCE AND EXPLORATION

Includes planetology; selenology; meteorites; comets; and manned and unmanned planetary and lunar flights. For spacecraft design or space stations see *18 Spacecraft Design, Testing and Performance*.

19940009140 NASA, Washington, DC, USA
Exploring Mars
Mar 1, 1987; In English; 5 min. 40 sec. playing time, in color, with sound
Report No(s): ASR-243; NASA-TM-109306; NONP-NASA-VT-93-185324; No Copyright; Avail: CASI: C01, DVD

This presentation shows what researchers are designing (solar balloon and rover) to better explore Mars geography before sending a manned mission.
Author (revised)
Mars Probes; Planetary Geology; Roving Vehicles; Spacecraft Design

19940009153 NASA Lewis Research Center, Cleveland, OH, USA
NASA images 11
Apr 1, 1988; In English; 27 min. 6 sec. playing time, in color, with sound
Report No(s): LERC-3007; NASA-TM-109287; NONP-NASA-VT-93-185303; No Copyright; Avail: CASI: C01, DVD

A look at unmanned spacecraft to explore planets is presented. The topics covered include Pioneer 10 and 11, Pioneer-Venus, Voyager, IUE, and HEAO.
Author (revised)
HEAO; IUE; Pioneer Project; Space Exploration; Unmanned Spacecraft; Voyager Project

19940010766 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA
Voyager encounter highlights
Jun 28, 1989; In English; 30 min. 18 sec. playing time, in color, with sound
Report No(s): NASA-TM-109420; NONP-NASA-VT-93-190217; No Copyright; Avail: CASI: C01, DVD

The following are presented: computer animation of trajectories for both Voyagers 1 and 2; view of Jupiter during one orbit of Ganymede; computer animation of Voyager 2's encounter with Jupiter and its satellites; time lapse of the planet's rotation and its satellites; stroboscopic sequence of selected frames; cloud motion; Jupiter's Great Red Spot (4/25 - 5/24, 1979) through a violet filter; and the Great Red Spot through a blue filter by Voyager 1. The dynamics of Jupiter's clouds are shown

- the whole planet is shown first, then two closer looks are repeated several times. Also included are pans of stills of Jupiter's satellites and a computer simulation tour of Saturn system from POV just behind Voyager, made of 116 images of Saturn through a green filter and of 516 images taken by Voyager 1 (9/12 - 9/14, 1980). Frames are enhanced to show the motion of features in Saturn's rings. Pans of stills of Saturn's satellites are shown. There is computer animation of the planet's system, rings, and Sigma Sagittari. Images on January 14, 1986 are through an orange filter. Uranus's satellites are shown as is computer animation of an August 1989 encounter.

CASI

Jupiter (Planet); Jupiter Red Spot; Jupiter Satellites; Saturn Rings; Voyager 1 Spacecraft; Voyager 2 Spacecraft

19940010767 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA

Neptune encounter highlights

Nov 28, 1989; In English; 32 min. 38 sec. playing time, in color, with sound

Report No(s): JPL-AVC-151-89; NASA-TM-109421; NONP-NASA-VT-93-190218; No Copyright; Avail: CASI: C01, DVD

Voyager encounter data are presented in computer animation (CA) and real (R) animation. The highlights include a view of 2 full rotations of Neptune. It shows spacecraft trajectory 'diving' over Neptune and intercepting Triton's orbit, depicting radiation and occulation zones. Also shown are a renegade orbit of Triton and Voyager's encounter with Neptune's Magnetopause. A model of the spacecraft's complex maneuvers during close encounters of Neptune and Triton is presented. A view from Earth of Neptune's occulation experiment is is shown as well as a recreation of Voyager's final pass. There is detail of Voyager's Image Compensation technique which produces Voyager images. Eighteen images were produced on June 22 - 23, 1989, from 57 million miles away. A 68 day sequence which provides a stroboscopic view - colorization approximates what is seen by the human eye. Real time images recorded live from Voyager on 8/24/89 are presented. Photoclinometry produced the topography of Triton. Three images are used to create a sequence of Neptune's rings. The globe of Neptune and 2 views of the south pole are shown as well as Neptune rotating. The rotation of a scooter is frozen in images showing differential motion. There is a view of rotation of the Great Dark Spot about its own axis. Photoclinometry provides a 3-dimensional perspective using a color mosaic of Triton images. The globe is used to indicate the orientation of Neptune's crescent. The east and west plumes on Triton are shown.

CASI

Neptune (Planet); Planetary Rotation; Spacecraft Trajectories; Triton; Voyager 2 Spacecraft

19940010821 NASA, Washington, DC, USA

Lunar base concepts

Apr 1, 1985; In English; 3 min. 2 sec. playing time, in color, with sound

Report No(s): ASR-236; NASA-TM-109607; NONP-NASA-VT-93-190405; No Copyright; Avail: CASI: C01, DVD

This video discusses NASA's plans for a lunar base. Additionally, the video features interviews with George Keyworth, James Beggs, and Harrison Schmidt.

CASI

Lunar Bases; NASA Space Programs

19940010869 NASA, Washington, DC, USA

The 1979 highlights

Dec 1, 1979; In English; 14 min. 30 sec. playing time, in color, with sound

Report No(s): ASR-178; NASA-TM-109443; NONP-NASA-VT-93-190240; No Copyright; Avail: CASI: C01, DVD

The video includes footage of the following: Voyagers to Jupiter, Pioneer to Saturn, High Energy Astronomy Observatory, space telescope, space shuttle, astronauts Young and Crippen, 10th anniversary of Apollo 11, Skylab reentry, Landsat, satellite freeze warning, Fire Fighting Module, SAGE, wind generators, Solar Energy Project, electric car research, XV-15, HiMAT, and crash worthiness tests.

CASI

Energy Technology; HEAO; Highly Maneuverable Aircraft; Hubble Space Telescope; Landsat Satellites; Space Shuttles; XV-15 Aircraft

19940010875 NASA, Washington, DC, USA
Voyager encounters Uranus
Jun 1, 1986; In English; 3 min. 2 sec. playing time, in color, with sound
Report No(s): ASR-240; NASA-TM-109619; NONP-NASA-VT-93-190417; No Copyright; Avail: CASI: C01, DVD
Early results from Voyager's pass of Uranus and its moon, Miranda, are shown.
CASI
Miranda; Uranus (Planet); Voyager 2 Spacecraft

19940010946 NASA Lewis Research Center, Cleveland, OH, USA
NASA report to education, volume 7
Dec 1, 1989; In English; 26 min. 14 sec. playing time, in color, with sound
Report No(s): LERC-3043; NASA-TM-109435; NONP-NASA-VT-93-190232; No Copyright; Avail: CASI: C01, DVD
Segments of this video include the STS-34 Mission, Pegesus tests, and Voyager's Neptune.
CASI
Education; Neptune (Planet); Pegasus Air-Launched Booster; Space Shuttle Missions; Voyager Project

19940010959 NASA Ames Research Center, Moffett Field, CA, USA
Galileo probe ready to go
Feb 1, 1989; In English; 4 min. playing time, in color, with sound
Report No(s): NASA-TM-109648; NONP-NASA-VT-93-190446; No Copyright; Avail: CASI: C01, DVD
This video presents close cloud views of Jupiter, probe deployment, descent, chute opening, trajectories, and views of assembly at Hughes.
CASI
Deployment; Descent Trajectories; Galileo Probe; Jupiter Atmosphere; Parachute Descent; Parachutes; Spacecraft Components

19940011018 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA
Voyager 2: Neptune encounter
Aug 8, 1989; In English; 11 min. 31 sec. playing time, in color, with sound
Report No(s): JPL-AVC-099-89; NASA-TM-109423; NONP-NASA-VT-93-190220; No Copyright; Avail: CASI: C01, DVD
Computer graphics, actual images, and stock footage of the Voyager 2's Neptune encounter are narrated with music.
CASI
Neptune (Planet); Voyager 2 Spacecraft

19940011038 NASA Lewis Research Center, Cleveland, OH, USA
NASA images 12
Apr 1, 1988; In English; 28 min. 7 sec. playing time, in color, with sound
Report No(s): LERC-3008; NASA-TM-109417; NONP-NASA-VT-93-190214; No Copyright; Avail: CASI: C01, DVD
Voyager's encounters with Jupiter, Saturn, Uranus, and pre-Neptune are reviewed.
CASI
Images; Saturn (Planet); Uranus (Planet); Voyager Project

19940011039 NASA Lewis Research Center, Cleveland, OH, USA
NASA images 13
Apr 1, 1988; In English; 28 min. 30 sec. playing time, in color, with sound
Report No(s): LERC-3009; NASA-TM-109418; NONP-NASA-VT-93-190215; No Copyright; Avail: CASI: C01, DVD
Clips on Voyager 2 at Uranus and Venus are presented.
CASI
Images; Uranus (Planet); Venus (Planet)

19940011040 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA
Life and the solar system: The CRAF and Cassini missions
Mar 21, 1993; In English; 9 min. playing time, in color, with sound
Report No(s): JPL-AVC-025-89; NASA-TM-109422; NONP-NASA-VT-93-190219; No Copyright; Avail: CASI: C01, DVD

Animation and interviews describe the proposed missions to study comets and Saturn.
CASI
Cassini Mission; Comet Rendezvous Asteroid Flyby Mission; Comets; Saturn (Planet)

19940011597 NASA Ames Research Center, Moffett Field, CA, USA
Galileo probe spacecraft mission to Jupiter
Oct 1, 1989; In English; 9 min. playing time, in color, with sound
Report No(s): AAV-1283; NASA-TM-109646; NONP-NASA-VT-93-190444; No Copyright; Avail: CASI: C01, DVD

This video contains Galileo probe animation, mission diagrams, and testing and manufacturing footage.
CASI
Checkout; Computer Animation; Galileo Probe; Galileo Project; Manufacturing; Prelaunch Summaries; Space Vehicle Checkout Program

19940014484 NASA, Washington, DC, USA
Voyager's last encounter
Nov 1, 1989; In English; 3 min. 16 sec. playing time, in color, with sound
Report No(s): ASR-251; NASA-TM-109361; NONP-NASA-VT-94-198208; No Copyright; Avail: CASI: C01, DVD

This video describes Voyager 2's encounter with Neptune. Computer animation and actual data convey Voyager's discoveries such as turbulent storms and dark spots in Neptune's atmosphere, six new moons, Neptune's three rings, and the presence of frozen methane on Triton, as researchers at NASA's Jet Propulsion Laboratory describe Voyager's achievements.
CASI
Neptune (Planet); Neptune Atmosphere; Neptune Satellites; Planetary Rings; Voyager 2 Spacecraft

19940014485 NASA, Washington, DC, USA
Magellan, Galileo, and Ulysses
Jan 1, 1991; In English; 4 min. 4 sec. playing time, in color, with sound
Report No(s): ASR-255; NASA-TM-109362; NONP-NASA-VT-94-198209; No Copyright; Avail: CASI: C01, DVD

A combination of sophisticated computer animation and shuttle footage describe the missions of Ulysses, Galileo, and Magellan satellites to the solar system. Ulysses, launched in October 1990 by the European Space Agency, will study the sun. Galileo, launched in October 1989, will probe the Jovian system by releasing a probe that will descend into Jupiter's atmosphere and by using 12 instruments which will study Jupiter's 16 moons, its atmosphere, and its radiation and magnetic fields. Magellan, released from Space Shuttle Atlantis in May 1989, uses a synthetic aperture radar to probe through Venus' dense atmosphere to map its planetary surface. A computer animation simulates flying over the surface of Venus.
CASI
Galileo Project; Galileo Spacecraft; Magellan Project (NASA); Magellan Spacecraft (NASA); Planetary Geology; Space Exploration; Ulysses Mission

19940014486 NASA, Washington, DC, USA
Future energy source
Oct 1, 1990; In English; 3 min. 28 sec. playing time, in color, with sound
Report No(s): ASR-254; NASA-TM-109363; NONP-NASA-VT-94-198210; No Copyright; Avail: CASI: C01, DVD

This video describes the efforts of the Center for the Commercial Development of Space in Wisconsin to develop a strategy for mining Helium-3, an efficient, environmentally safe alternative to fossil fuels that exists on the moon. Animated sequences depict the equipment that could mine the lunar surface, boil away Helium-3 to be transported back to earth, and return the soil to the moon without destroying the lunar surface.
CASI
Helium Isotopes; Lunar Excavation Equipment; Lunar Mining; Lunar Resources; Space Commercialization

19940014493 NASA Lewis Research Center, Cleveland, OH, USA
Spacework 17: O'Leary's Mars
May 1, 1988; In English; 28 min. 40 sec. playing time, in color, with sound
Report No(s): LERC-3014; NASA-TM-109374; NONP-NASA-VT-94-198221; No Copyright; Avail: CASI: C01, DVD

Brian O'Leary gives his ideas on reaching and exploring Mars.
CASI
Mars (Planet); Space Exploration

19940027299 NASA Lewis Research Center, Cleveland, OH, USA
Mars: Five views on what is known
Feb 1, 1993; In English; 29 min. playing time, in color, with sound
Report No(s): LERC-92-217; NASA-TM-109751; NONP-NASA-VT-94-9951; No Copyright; Avail: CASI: C01, DVD

This video gives a historical survey of philosophy and scientific study of the nature of the surface of Mars and discussion of whether life existed or exists on Mars. Several Lewis researchers recount early telescope observations of Mars including the identification of 'channels' or possible ancient waterways on the surface. An overview of the accomplishments of the Mariner spacecraft in mapping the surface of Mars as well as a detailed description of the Viking missions to Mars are presented. The results of the Viking Biology Experiment, conducted by the Viking Lander, are highlighted. There is also a discussion of the possible presence of monuments and a huge 'face' on the Martian surface. The video includes several computer simulations of flight over the Martian surface.
CASI
Extraterrestrial Life; General Overviews; Histories; Mars (Planet); Mars Probes; Mars Surface; Planetary Mapping

19940029081 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA
And then there was Voyager
Sep 25, 1990; In English; 30 min. 19 sec. playing time, in color, with sound
Report No(s): JPL-AVC-182-90; NASA-CR-195928; NONP-NASA-VT-94-9945; No Copyright; Avail: CASI: C01, DVD

NASA's legendary grand tour of the outer solar system from the mission conception in the early 1970's is described. The search for the heliopause is discussed. This presentation is told in the words of the key members of the Voyager team.
CASI
Grand Tours; Milky Way Galaxy; Voyager Project

19940029586 NASA Ames Research Center, Moffett Field, CA, USA
Exobiology and solar system exploration
Aug 1, 1988; In English; 4 min. playing time, in color, with sound
Report No(s): NASA-TM-109850; NONP-NASA-VT-94-13713; No Copyright; Avail: CASI: C01, DVD

The exploration of the solar system through video animation is shown. Actual footage of the Earth's water and land surface is included.
ARC
Exobiology; Space Exploration

19940030998 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA
Galileo: The Jovian laboratory
Oct 1, 1989; In English; 6 min. playing time, in color, with sound
Report No(s): JPL-AVC-007-90; NASA-CR-196043; NONP-NASA-VT-94-15912; No Copyright; Avail: CASI: C01, DVD

This video presentation gives a pre-launch description of the Galileo Mission.
CASI
Galileo Project; Space Exploration

19940030999 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA
Voyager: National Air and Space Museum
Oct 1, 1989; In English; 4 min. 30 sec. playing time, in color, with sound
Report No(s): JPL-AVC-017-90; NASA-CR-195905; NONP-NASA-VT-94-15913; No Copyright; Avail: CASI: C01, DVD

A recap of the travels of the Voyager spacecraft to the outer planets is presented. (This video was originally made for a talk at the National Air and Space Museum.
CASI
Space Exploration; Voyager Project

19940031000 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA
Voyager last picture show
Sep 1, 1989; In English; 5 min. 30 sec. playing time, in color, with sound
Report No(s): JPL-AVC-017-90; NASA-CR-195796; NONP-NASA-VT-94-15914; No Copyright; Avail: CASI: C01, DVD

This video presentation blends animation, actual photos, and data of the Voyager-Neptune encounter.
CASI
Neptune (Planet); Space Exploration; Voyager Project

19940031001 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA
Atmosphere of Venus
Nov 1, 1990; In English; 2 min. 18 sec. playing time, in color, with sound
Report No(s): JPL-AVC-0363-91; NASA-CR-194214; NONP-NASA-VT-94-15915; No Copyright; Avail: CASI: C01, DVD

This video presents preliminary results as seen through the violet filter of the Galileo Solid State Imaging System.
CASI
Venus (Planet); Venus Atmosphere

19940031002 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA
Galileo Earth/Moon 1 encounter
Dec 1, 1990; In English; 3 min. 1 sec. playing time, in color, with sound
Report No(s): JPL-AVC-056-91; NASA-CR-195545; NONP-NASA-VT-94-15916; No Copyright; Avail: CASI: C01, DVD

This video presents sequences of Galileo images showing the dynamics of the Earth-Moon system.
CASI
Earth-Moon System; Galileo Spacecraft

19940031003 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA
Magellan collection of radar calibration results
Nov 1, 1990; In English; 8 min. 40 sec. playing time, in color, with sound
Report No(s): JPL-AVC-180-90; NASA-CR-194753; NONP-NASA-VT-94-15917; No Copyright; Avail: CASI: C01, DVD

This video presents three sequences acquired by Magellan, Aug.-Oct 1990 and includes the globe of Venus in black and white, the Golubkina crater, and 12 short scenes of different pan moves.
CASI
Planetary Craters; Radar Imagery; Venus (Planet)

19940031007 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA
Voyager science summary tape
Jun 1, 1990; In English; 28 min. 21 sec. playing time, in color, with sound
Report No(s): JPL-AVC-122-90; NASA-CR-195909; NONP-NASA-VT-94-15921; No Copyright; Avail: CASI: C01, DVD

A summary of Voyager science is presented by Dr. Edward Stone (originally part of a press conference on June 6, 1990).
CASI
Space Exploration; Voyager Project

19950004096 NASA, Washington, DC, USA
Comet impact tape 1
Jul 1, 1994; In English; 1 hr. playing time, with sound
Report No(s): NASA-TM-109908; NONP-NASA-VT-94-23150; No Copyright; Avail: CASI: C01, DVD

Continued press coverage of the comet Shoemaker-Levy 9 impact on the surface of Jupiter is presented. This tape covers 16 Jul. 1994.
CASI
Cometary Collisions; Jupiter (Planet); Shoemaker-Levy 9 Comet

19950004097 NASA, Washington, DC, USA
Comet impact tape 2
Jul 1, 1994; In English; 1 hr. playing time, with sound
Report No(s): NASA-TM-109909; NONP-NASA-VT-94-23151; No Copyright; Avail: CASI: C01, DVD

Continued press coverage of the comet Shoemaker-Levy 9 impact on the surface of Jupiter is presented. This tape covers 16 Jul. 1994.
CASI
Cometary Collisions; Jupiter (Planet); Shoemaker-Levy 9 Comet

19950004098 NASA, Washington, DC, USA
Comet impact tape 4
Jul 1, 1994; In English; 1 hr. playing time, with sound
Report No(s): NASA-TM-109911; NONP-NASA-VT-94-23153; No Copyright; Avail: CASI: C01, DVD

Continued press coverage of the comet Shoemaker-Levy 9 impact on the surface of Jupiter is presented. This tape covers 18 Jul. 1994.
CASI
Cometary Collisions; Jupiter (Planet); Shoemaker-Levy 9 Comet

19950004099 NASA, Washington, DC, USA
Comet impact tape 5
Jul 1, 1994; In English; 1 hr. 14 min. playing time, with sound
Report No(s): NASA-TM-109912; NONP-NASA-VT-94-23154; No Copyright; Avail: CASI: C01, DVD

Continued press coverage of the comet Shoemaker-Levy 9 impact on the surface of Jupiter is presented. This tape covers 19 Jul. 1994.
CASI
Cometary Collisions; Jupiter (Planet); Shoemaker-Levy 9 Comet

19950004100 NASA, Washington, DC, USA
Comet impact tape 6
Jul 1, 1994; In English; 1 hr. 12 min. playing time, with sound
Report No(s): NASA-TM-109913; NONP-NASA-VT-94-23155; No Copyright; Avail: CASI: C01, DVD

Continued press coverage of the comet Shoemaker-Levy 9 impact on the surface of Jupiter is presented. This tape covers 20 Jul. 1994.
CASI
Cometary Collisions; Jupiter (Planet); Shoemaker-Levy 9 Comet

19950004101 NASA, Washington, DC, USA
Comet impact tape 7
Jul 1, 1994; In English; 1 hr. 32 min. playing time, with sound
Report No(s): NASA-TM-109914; NONP-NASA-VT-94-23156; No Copyright; Avail: CASI: C01, DVD

Continued press coverage of the comet Shoemaker-Levy 9 impact on the surface of Jupiter is presented. This tape covers 21 Jul. 1994.

CASI

Cometary Collisions; Jupiter (Planet); Shoemaker-Levy 9 Comet

19950004102 NASA, Washington, DC, USA
Comet impact tape 8
Jul 1, 1994; In English; 1 hr. 30 min. playing time, with sound
Report No(s): NASA-TM-109915; NONP-NASA-VT-94-23157; No Copyright; Avail: CASI: C01, DVD

Continued press coverage of the comet Shoemaker-Levy 9 impact on the surface of Jupiter is presented. This tape covers 22 Jul. 1994.

CASI

Cometary Collisions; Jupiter (Planet); Shoemaker-Levy 9 Comet

19950004103 NASA, Washington, DC, USA
Comet impact tape 9
Jul 1, 1994; In English; 1 hr. 21 min. playing time, with sound
Report No(s): NASA-TM-109916; NONP-NASA-VT-94-23158; No Copyright; Avail: CASI: C01, DVD

Continued press coverage of the comet Shoemaker-Levy 9 impact on the surface of Jupiter is presented. This tape covers 23 Jul. 1994.

CASI

Cometary Collisions; Jupiter (Planet); Shoemaker-Levy 9 Comet

19950004145 NASA, Washington, DC, USA
Comet impact tape 3
Jul 1, 1994; In English; 1 hr. 22 min. playing time, with sound
Report No(s): NASA-TM-109910; NONP-NASA-VT-94-23152; No Copyright; Avail: CASI: C01, DVD

Continued press coverage of the comet Shoemaker-Levy 9 impact on the surface of Jupiter is presented. This tape covers 17 Jul. 1994.

CASI

Cometary Collisions; Jupiter (Planet); Shoemaker-Levy 9 Comet

19950004571 NASA, Washington, DC, USA
Mars Pathfinder B-roll
JAN 1, 1994; In English; 9 min. 6 sec. playing time
Report No(s): NASA-TM-109954; NONP-NASA-VT-94-25774; No Copyright; Avail: CASI: C01, DVD

This video uses computer graphic models of the heat shield, lander, and parachute to present an artist's concept of the Mars Pathfinder descent. Viking image mosaics are used to create a rotating globe of Mars. A separate segment presents a simulated flight over the Mars Pathfinder landing site.

CASI

Mars Landing; Parachute Descent; Spacecraft Landing; Spacecraft Maneuvers

19950010421 NASA Johnson Space Center, Houston, TX, USA
Apollo 16: Nothing so hidden
JAN 1, 1972; In English; 28 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110104; NONP-NASA-VT-95-33955; No Copyright; Avail: CASI: C01, DVD

This film shows the landing and the three lunar traverses in the highland region of the moon, near the crater descartes.

It includes an astronaut's eye view from the rover, lunar grand prix, discovery of the house-sized rock, lunar lift-off and eva 173,000 miles above the earth. Microphones and cameras in mission control record the emergency problem solving during the prelanding crisis and the reactions of scientists on earth as the astronauts explore the moon.
JSC
Apollo 16 Flight; Lunar Craters; Lunar Exploration; Lunar Landing; Lunar Launch; Lunar Photography; Lunar Rocks; Lunar Trajectories; Moon

19950010422 NASA Johnson Space Center, Houston, TX, USA
Apollo 17: On the shoulders of giants
JAN 1, 1973; In English; 28 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110105; NONP-NASA-VT-95-33956; No Copyright; Avail: CASI: C01, DVD

A documentary view of the Apollo 17 journey to Taurus-Littrow, the final lunar landing mission in the Apollo program is discussed. The film depicts the highlights of the mission and relates the Apollo program to Skylab, the Apollo-Soyuz linkup and the Space Shuttle.
Author
Apollo Soyuz Test Project; Apollo 17 Flight; Lunar Landing; Space Shuttles

19950010423 NASA Johnson Space Center, Houston, TX, USA
New look at the old Moon
JAN 1, 1980; In English; 28 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-110106; NONP-NASA-VT-95-33957; No Copyright; Avail: CASI: C01, DVD

The decade of 1969-1979 is seen as the time when lunar science emerged from the dark ages as a result of the geophysical and sample investigations made possible by the Apollo flights to the moon. After a brief summary of the Apollo missions and laboratory investigative techniques, the film treats the major epochs in lunar history uncovered by the investigations. Finally, the moon is depicted as having a practical role in the future of science and technology, as well as serving as the pattern for the future exploration of space.
JSC
Apollo Flights; Lunar Evolution; Lunar Exploration; Lunar Programs; Moon; Space Exploration

19950010527 NASA Johnson Space Center, Houston, TX, USA
Apollo 15: In the mountains of the Moon
JAN 1, 1971; In English; 28 min. playing time, in color, with sound
Report No(s): NASA-TM-109988; NONP-NASA-VT-95-34903; No Copyright; Avail: CASI: C01, DVD

This video features the following: (1) extra vehicle activity (EVA); (2) the three traversed of the lunar surface; (3) film taken from the Lunar Rover; (4) hammer and feather tests of Galileo's theory on falling objects in gravity fields; (5) Worden's EVA; (6) subsatellite launching; (7) X-ray pulsar observations; and (8) splash down with one parachute collapsed.
JSC
Apollo 15 Flight; Extravehicular Activity; Lunar Exploration System For Apollo

19950012630 NASA Johnson Space Center, Houston, TX, USA
Mercury: Exploration of a planet
JAN 1, 1976; In English; 22 min. playing time, in color, with sound
Report No(s): NASA-TM-110489; NONP-NASA-VT-95-39134; No Copyright; Avail: CASI: C01, DVD

The flight of the Mariner 10 spacecraft to Venus and Mercury is detailed in animation and photography. Views of Mercury are featured. Also included is animation on the origin of the solar system. Dr. Bruce C. Murray, director of the Jet Propulsion Laboratory, comments on the mission.
JSC
Mariner 10 Space Probe; Mercury (Planet); Solar System Evolution; Venus (Planet)

19950014779 NASA Johnson Space Center, Houston, TX, USA

Moon: Old and new

JAN 1, 1970; In English; 25 min. playing time, in color, with sound

Report No(s): NASA-TM-110511; NASA-JSC-554; NONP-NASA-VT-95-42155; No Copyright; Avail: CASI: C01, DVD

This video presents the moon as studied by man for more than 20 centuries. It reviews the history of lunar studies before the first moon landing, the major things learned since Apollo II, and closes with a resumes of lunar investigations scientists would like to undertake in the future.

Author

Apollo Spacecraft; Lunar Exploration; Moon

19950018252 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA

Mars observer mission: Mapping the Martian world

JAN 1, 1992; In English; 7 min. 14 sec. playing time, in color, with sound

Report No(s): NASA-CR-110585; AVC-92-193; NONP-NASA-VT-95-47244; No Copyright; Avail: CASI: C01, DVD

The 1992 Mars Observer Mission is highlighted in this video overview of the mission objectives and planning. Using previous photography and computer graphics and simulation, the main objectives of the 687 day (one Martian year) consecutive orbit by the Mars Observer Satellite around Mars are explained. Dr. Arden Albee, the project scientist, speaks about the pole-to-pole mapping of the Martian surface topography, the planned relief maps, the chemical and mineral composition analysis, the gravity fields analysis, and the proposed search for any Mars magnetic fields.

CASI

Gravitational Fields; Mars (Planet); Mars Exploration; Mars Observer; Mars Satellites; Mars Surface; Mission Planning; Planetary Magnetic Fields; Planetary Mapping; Satellite-Borne Photography; Topography

19950022757 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA, USA

Collection of Magellan Venus radar mapping results

Mar 8, 1991; In English; 6 min. playing time, in color, with sound

Report No(s): NASA-CR-197656; AVC-91-091; NONP-NASA-VT-95-46003; No Copyright; Avail: CASI: C01, DVD

Through computer animation several geological features of Venus are presented in this video. The Sif Mons, a 1.2 mile high volcano and the Gula Mons, a 1.8 mile high volcano are shown. Also, radar images of a rift valley, several impact craters, and a corona can be seen. The video ends with a northeast view of Eistla Regio.

CASI

Computer Aided Mapping; Planetary Geology; Planetary Mapping; Radar Imagery; Radar Maps; Venus (Planet); Venus Surface

19950023543 Interface Video Systems, Inc., Washington, DC, USA

Rover story

Jul 9, 1990; In English; 6 min. playing time, in color, with sound

Report No(s): NASA-CR-198757; JB-0-06-0272; NONP-NASA-VT-95-56825; No Copyright; Avail: CASI: C01, DVD

Future Mars exploration missions and operations are discussed using computer animation along with proposed vehicles and equipment, for example, a Mars surface land rover. There is a Presidential Address by President George Bush where he discusses future goals for space exploration. This video also outlines the Outreach Program, which offers the public the chance to suggest new ideas for space research and exploration.

Author

Mars Exploration; Mars Sample Return Missions; Mars Surface; Technological Forecasting

19950023828 NASA Johnson Space Center, Houston, TX, USA

Lunar/Mars exploration for synthesis group

Aug 12, 1992; In English; 10 min. 21 sec. playing time, in color, with sound

Report No(s): NASA-TM-110647; NONP-NASA-VT-95-57873; No Copyright; Avail: CASI: C01, DVD

Computer animation of future expeditions, research projects, and equipment (satellites, telescopes, etc.,) are contained on

this video. President George Bush, in a Presidential Address, speaks on future plans for NASA emphasizing Space Station Freedom and a manned mission to Mars.
CASI
Lunar Exploration; Lunar Programs; Manned Mars Missions; Mars Exploration; Space Station Freedom

19950023897 NASA Johnson Space Center, Houston, TX, USA
Apollo 14: Shepard hitting golf ball on Moon
JAN 1, 1970; In English; 3 min. playing time, in color, with sound
Report No(s): NASA-TM-110638; VJSC-1207; NONP-NASA-VT-95-56871; No Copyright; Avail: CASI: C01, DVD

Live footage of astronaut Alan Shepard hitting a golf ball on the Moon is featured on this video.
Author
Apollo 14 Flight; Astronauts; Lunar Exploration; Lunar Surface; Moon; Weightlessness

19960003227 NASA Johnson Space Center, Houston, TX, USA
Apollo 14 mission to Fra Mauro
Beasley, Brian D., editor; Apr 11, 1991; In English; 28 min. 30 sec. playing time, in color, with sound
Report No(s): NIPS-95-05615; NASA-TM-110588; JSC-563; NONP-NASA-VT-95-1995005615; No Copyright; Avail: CASI: C01, DVD

The 1971 Apollo 14 Mission to Fra Mauro, a lunar highland area, is highlighted in this video. The mission's primary goal was the collection of lunar rocks and soil samples and lunar exploration. The soil and rock sampling was for the geochronological determination of the Moon's evolution and its comparison with that of Earth. A remote data collection station was assembled on the Moon and left for continuous data collection and surface monitoring experiments. The Apollo 14 astronauts were Alan B. Shepard, Edgar D. Mitchell, and Stuart A. Rossa. Astronauts Shepard and Mitchell landed on the Moon (February 5, 1971) and performed the sampling, the EVA, and deployment of the lunar experiments. There is film-footage of the lunar surface, of the command module's approach to both the Moon and the Earth, Moon and Earth spacecraft launching and landing, in-orbit command- and lunar-module docking, and of Mission Control.
CASI
Apollo 14 Flight; Astronauts; Geochronology; Highlands; Lunar Exploration; Lunar Exploration System For Apollo; Lunar Rocks; Lunar Soil; Lunar Surface; Manned Spacecraft; Soil Sampling

20000027670 Jet Propulsion Lab., California Inst. of Tech., Pasadena, CA USA
MGS images of Mars
Jun. 23, 1999; In English; 4 min. 21 sec. playing time, in color, with sound
Report No(s): NONP-NASA-VT-2000033901; No Copyright; Avail: CASI: C01, DVD

The Mars Global Surveyor (MGS) camera captured images of a pit formed when a straight-walled trough collapsed. The heart shaped pit is about 2.3 kilometers (1.4 miles) wide. It is located on the east flank of the Alba Patera volcano in northern Tharsis.
CASI
Mars Global Surveyor; Mars Photographs; Mars Surface; Troughs

20010021609 Space Telescope Science Inst., Baltimore, MD USA
Worlds Smaller than Saturn
Mar. 01, 2001; In English; 64 min. 7 sec. playing time, in color, with sound
Report No(s): NONP-NASA-VT-2001030026; No Copyright; Avail: CASI: C01, DVD

Computerized animations show the following: (1) an artist's conception of a Saturn-like extrasolar planet; (2) star and planet motion; and (3) young stellar disk and planet formation. Footage shows the outside of the Mauna Kea Observatories in Hawaii and Geoff Marcy and Paul Butler inside while they are processing information. Then a press conference,'Worlds

Smaller than Saturn', is seen. Anne Kinney, Origins Science Director, NASA Headquarters, introduces Geoff Marcy, Paul Butler, Alan Boss, and Heidi Hammel. They discuss the discovery of the two new Saturn-sized extrasolar planets that are orbiting the stars HD46375 and 79 Seti, giving details on the search technique and size distribution. They then answer questions from the press.
CASI
Extrasolar Planets; Planetary Evolution

20040200962 NASA, Washington, DC, USA
Probing the Primordial Constituents of Our Solar System
October 30, 1995; 1 pp.; In English; 2 hrs. playing time, in color, with sound; No Copyright; Avail: CASI: C01, DVD

Dr. France Cordova, NASA's Chief Scientist, chaired this, another seminar in the Administrator's Seminar Series. She introduced NASA Administrator, Daniel S. Goldin, who greeted the attendees, and noted that, from the day people first looked into the sky, they've wondered what was up there, who or what created it, is Earth unique, what shaped the solar system, what is the Kuiper Belt and why is it there, and what are the solar system's building blocks. NASA's missions may discover some of the answers. Dr. Cordova then introduced Dr. Anita Cochran, research scientist at the University of Texas. Dr. Cochran has been searching for some of this information. She is especially interested in finding out when various planets and asteroids were discovered, what their orbits are, when the solar system was formed, and more about the comets in the Kuiper Belt. Are they icy planetisimals that helped form our solar system? Dr. Toby Owen of the University of Hawaii faculty spoke next. He believes that life on Earth exists because comets brought water and a variety of light elements to Earth from the outer parts of the solar system. Without them, we couldn't exist. He noted that noble gases don't mix with other gases. Gases come to Earth via rocks and by bombardment. Ice can trap argon and carbon, but not neon. Dr. Owens concluded with comments that we need 'better numbers for the Martian atmosphere', and it would be good to get samples of material from a comet. The third speaker was Dr. Eugene Shoemaker of the Lowell Observatory and the U.S. Geological Survey. He is credited with discovering more than 800 asteroids and learning about the Oort Cloud, which is believed to be a cloud of rocks and dust that may surround our solar system and be where comets originate. Comet storms reoccur about every 30 million years. Dr. Shoemaker suggested that since we are presently in a period of comet showers, it would be good to get a comet sample. It might provide insight regarding the origin of life. Additional information is included in the original extended abstract.
Author
Solar System Evolution; Comets; Planetary Composition; Cometary Collisions

20080015990 NASA Marshall Space Flight Center, Huntsville, AL, USA
Is There Water on the Moon? NASA's LCROSS Mission [Supplemental Video]
November 09, 2007; In English; See also 20080015767; Video is on CD-ROM, Sound, Color, 4.15 min.; No Copyright; Avail: CASI: C01, CD-ROM

Presents a supplemental video supporting the original conference presentation under the same title. The conference presentation discussed NASA's preparation for its return to the moon with the Lunar CRater Observation and Sensing Satellite (LCROSS) mission which will robotically seek to determine the presence of water ice at the Moon's South Pole. This secondary payload spacecraft will travel with the Lunar Reconnaissance Orbiter (LRO) satellite to the Moon on the same Atlas-V 401 Centaur rocket launched from Cape Canaveral Air Force Station, Florida. The 1000kg Secondary Payload budget is efficiently used to provide a highly modular and reconfigurable LCROSS Spacecraft with extensive heritage to accurately guide the expended Centaur into the crater. Upon separation, LCROSS flies through the impact plume, telemetering real-time images and characterizing water ice in the plume with infrared cameras and spectrometers. LCROSS then becomes a 700kg impactor itself, to provide a second opportunity to study the nature of the Lunar Regolith. LCROSS provides a critical ground-truth for Lunar Prospector and LRO neutron and radar maps, making it possible to assess the total lunar water inventory. The video contains an animated simulation of the Centaur launch, LRO separation, LRO high resolution lunar survey, LCROSS mission elements and LCROSS impactor separation and impact observations.
CASI
Lunar Exploration; Lunar Craters; Mission Planning; Moon; Extraterrestrial Water; Lunar Satellites

20090016341 NASA Marshall Space Flight Center, Huntsville, AL, USA

Flux of Kilogram-sized Meteoroids from Lunar Impact Monitoring. Supplemental Movies

Suggs, Robert; Cooke, William; Suggs, Ron; McNamara, Heather; Swift, Wesley; Moser, Danielle; Diekmann, Anne; September 25, 2008; In English; Workshop on Lunar Impact Flashes, 26-27 Sep. 2008, Cologne, Germany; See also 20090019094

Report No(s): MSFC-2094; No Copyright; Avail: CASI: C01, CD-ROM

These videos, and audio accompany the slide presentation 'Flux of Kilogram-sized Meteoroids from Lunar Impact Monitoring.' The slide presentation reviews the routine lunar impact monitoring that has harvested over 110 impacts in 2 years of observations using telescopes and low-light level video cameras. The night side of the lunar surface provides a large collecting area for detecting these impacts and allows estimation of the flux of meteoroids down to a limiting luminous energy.

CASI

Lunar Surface; Meteoroid Concentration; Meteoroids; Multimedia

92
SOLAR PHYSICS

Includes solar activity, solar flares, solar radiation and sunspots. For related information see *93 Space Radiation*.

19940010814 NASA, Washington, DC, USA

Unmasking the Sun

Nov 1, 1988; In English; 3 min. 42 sec. playing time, in color, with sound

Report No(s): ASR-248; NASA-TM-109595; NONP-NASA-VT-93-190393; No Copyright; Avail: CASI: C01, DVD

This video describes solar-related research at the Mt. Palomar Observatory.

CASI

Observatories; Solar Physics; Sun

19940011049 NASA Ames Research Center, Moffett Field, CA, USA

C 141 KAO solar eclipse mission

Apr 1, 1988; In English; 4 min. playing time, in color, with sound

Report No(s): NASA-TM-109676; NONP-NASA-VT-93-190474; No Copyright; Avail: CASI: C01, DVD

This video presents the C 141 Kuiper Airborne Observatory Solar Eclipse Mission.

CASI

Kuiper Airborne Observatory; Solar Eclipses

20010036754 Space Telescope Science Inst., Baltimore, MD USA

Final Blaze of Glory

[2001]; In English; 14 min. 57 sec. playing time, in color, with sound

Report No(s): NONP-NASA-VT-2001026549; No Copyright; Avail: CASI: C01, DVD

This video gives an overview of planetary nebulae through a computerized animation, images from the Hubble Space Telescope (HST), and interviews with Space Telescope Science Institute Theorist Dr. Mario Livio. A computerized animation simulates a giant star as it swallows its smaller companion. HST images display various planetary nebulae, such as M2-9 Twinjet Nebula, NGC 3568, NGC 3918, NGC 5307, NGC 6826, NGC 7009, and Hubble 5. An artists conception shows what our solar system might look like in a billion years when the Sun has burned out and cast off its outer layers in a shell of glowing gas. Dr. Livio describes the shapes of the planetary nebulae, gives three reasons to study planetary nebulae, and what the observations made by HST have meant to him. A succession of 17 HST images of planetary nebulae are accompanied by music by John Serrie.

CASI

Giant Stars; Planetary Nebulae

99
GENERAL

Includes aeronautical, astronautical, and space science related histories, biographies, and pertinent reports too broad for categorization; histories or broad overviews of NASA programs such as Apollo, Gemini, and Mercury spacecraft, Earth Resources Technology Satellite (ERTS), and Skylab; NASA appropriations hearings.

19940009139 NASA, Washington, DC, USA
Highlights, 1981
Dec 1, 1981; In English; 14 min. 30 sec. playing time, in color, with sound
Report No(s): ASR-202; NASA-TM-109305; NONP-NASA-VT-93-185323; No Copyright; Avail: CASI: C01, DVD

This video presentation covers Shuttle flights 1 and 2, Spacelab, mobile workstation, Voyager 2 Saturn, Infrared Astronomy Satellite, Hubble Space Telescope, Kuiper Airborne Observatory, High Altitude Earth Survey, Landsat, aerodynamic research, electric cars, wind energy, XV-15, Quiet Shorthaul Research Aircraft, X-14 BVTOL, 40 x 80 Wind Tunnel, and turboprop research.
Author (revised)
Aerospace Engineering; NASA Programs; NASA Space Programs; Research and Development

19940009160 NASA Dryden Flight Research Facility, Edwards, CA, USA
Flight operations highlights, tapes 1 and 2
Apr 1, 1990; In English; 1 hr. 40 min. playing time, in color, NO sound
Report No(s): NASA-TM-109293; NONP-NASA-VT-93-185308; No Copyright; Avail: CASI: C01, DVD

Historical film footage of the X-series aircraft (including Yeager's X-1 flight), lifting bodies, and early Apollo landing tests is presented.
Author (revised)
Flight Operations; Histories

19940010768 NASA, Washington, DC, USA
The 1969 highlights
Dec 1, 1969; In English; 14 min. 30 sec. playing time, in color, with sound
Report No(s): ASR-58; NASA-TM-109630; NONP-NASA-VT-93-190428; No Copyright; Avail: CASI: C01, DVD

This video includes Mariners to Mars; Orbiting Solar Observatory; Orbiting Geophysical Observatory; sounding rockets; weather satellites - Tiros and Nimbus; applications technology; advanced research; space shuttle research; V/STOL; jet noise abatement; and Apollo 9, 10, 11, and 12 missions.
CASI
Aerospace Engineering; NASA Programs; NASA Space Programs; Research and Development; Space Missions

19940010769 NASA, Washington, DC, USA
The 1972 highlights
Jan 1, 1973; In English; 14 min. 30 sec. playing time, in color, with sound
Report No(s): ASR-95; NASA-TM-109631; NONP-NASA-VT-93-190429; No Copyright; Avail: CASI: C01, DVD

This document includes Mariners to Mars, Pioneer to Jupiter, Orbiting Astronomical Observatory, Small Astronomy Satellite, sounding rockets, earth resources, Nimbus weather watcher, communication satellites, aeronautics, wind tunnel research, STOL, noise abatement, lifting bodies, US/Soviet cooperation, preparation for Skylab, and the Apollo 16 and 17 missions.
CASI
Aerospace Engineering; NASA Programs; NASA Space Programs; Research and Development; Space Missions; Spacecraft

19940010770 NASA, Washington, DC, USA
The 1965 highlights
Dec 1, 1965; In English; 4 min. 40 sec. playing time, in color, with sound
Report No(s): ASR-12; NASA-TM-109632; NONP-NASA-VT-93-190430; No Copyright; Avail: CASI: C01, DVD

This document includes Ranger to the Moon, Mariner to Mars, Tiros weather watcher, Early Bird satellite, scientific

satellites, sounding rockets, aeronautical research, preparation for the moon, and manned Gemini flights.
CASI
Aerospace Engineering; NASA Programs; NASA Space Programs; Research and Development; Space Missions; Spacecraft

19940010771 NASA, Washington, DC, USA
The 1967 highlights
Dec 1, 1967; In English; 15 min. playing time, in color, with sound
Report No(s): ASR-37; NASA-TM-109633; NONP-NASA-VT-93-190431; No Copyright; Avail: CASI: C01, DVD

This document includes Surveyor, Lunar Orbiter, Apollo 4, Biosatellite, Orbiting Geophysical Observatory, Orbiting Solar Observatory, Explorers, Applications Technology satellites, operational satellites, Mariner to Venus, San Marco, sounding rockets, and aeronautical research.
CASI
Aerospace Engineering; NASA Programs; NASA Space Programs; Space Missions; Spacecraft

19940010842 NASA Johnson Space Center, Houston, TX, USA
STS-26 through STS-34, deploy activities
Dec 1, 1989; In English; 28 min. 34 sec. playing time, in color, with sound
Report No(s): JSC-1148; NASA-TM-109566; NONP-NASA-VT-93-190364; No Copyright; Avail: CASI: C01, DVD

This video shows on orbit deployments since Shuttle flights resumed in 1988. These deployments include TDRS-C and TDRS-D, and the Magellan and Galileo spacecrafts.
CASI
Deployment; Galileo Spacecraft; Magellan Spacecraft (NASA); Orbital Launching; Space Shuttle Missions; TDR Satellites

19940010849 NASA, Washington, DC, USA
NACA-NASA: 75 years of flight
Oct 1, 1990; In English; 3 min. 11 sec. playing time, in color, with sound
Report No(s): ASR-254; NASA-TM-109449; NONP-NASA-VT-93-190246; No Copyright; Avail: CASI: C01, DVD

This document presents historical footage used to recollect the last 75 years of aeronautical and space-related research.
CASI
Aeronautics; Aerospace Engineering; Histories; NASA Programs

19940010870 NASA, Washington, DC, USA
The 1966 highlights
Dec 1, 1966; In English; 14 min. 30 sec. playing time, in color, with sound
Report No(s): ASR-24; NASA-TM-109444; NONP-NASA-VT-93-190241; No Copyright; Avail: CASI: C01, DVD

The video includes footage of the following: space and aeronautic montage, Surveyor lands on the Moon, Lunar Orbiter, weather satellites, Orbiting Geophysical Observatory, Pagoes, Pioneer, sounding rockets, solar eclipse, X-15, lifting bodies, solid rockets, nuclear powered engines, Project Gemini ends, and Apollo-Saturn.
CASI
Apollo Project; Lifting Bodies; Lunar Exploration; Lunar Orbiter; OGO; X-15 Aircraft

19940010879 NASA, Washington, DC, USA
NASA: The 25th year
Sep 1, 1983; In English; 50 min. playing time, in color, with sound
Report No(s): ASR-223; NASA-TM-109457; NONP-NASA-VT-93-190254; No Copyright; Avail: CASI: C01, DVD

This video chronicles NASA's research and development programs, especially regarding space travel from 1958 to 1983.
CASI
NASA Space Programs; Space Exploration

19940010893 NASA Johnson Space Center, Houston, TX, USA
Apollo presentation for Astrodome
Aug 1, 1989; In English; 7 min. playing time, in color, with sound
Report No(s): JSC-1116; NASA-TM-109535; NONP-NASA-VT-93-190332; No Copyright; Avail: CASI: C01, DVD

This video features a condensed look at Apollo milestones. It was created for presentation at the Houston Astrodome during Apollo 11's 20th Anniversary celebrations.
CASI
Apollo Project; Space Missions

19940010921 NASA Johnson Space Center, Houston, TX, USA
President Kennedy's speech at Rice University
Nov 1, 1988; In English; 34 min. playing time, in color, with sound
Report No(s): JSC-1084; NASA-TM-109532; NONP-NASA-VT-93-190329; No Copyright; Avail: CASI: C01, DVD

This video presents unedited film footage of President John F. Kennedy's speech at Rice University, Houston, Texas, September 12, 1962. The speech expresses the commitment of the USA to landing an astronaut on the Moon.
CASI
Apollo Project; Manned Space Flight

19940010926 NASA Johnson Space Center, Houston, TX, USA
ASTP 15th anniversary clip-media release
Sep 1, 1990; In English; 42 min. playing time, in color, no sound
Report No(s): JSC-CL-1253; NASA-TM-109534; NONP-NASA-VT-93-190331; No Copyright; Avail: CASI: C01, DVD

This release is comprised of 5 separate clips, including the following: CL 762 Astronauts/Cosmonauts Visit to KSC and Walt Disney World; CL 739 ASTP Joint Crew Activities; CL 748 ASTP Astronauts/Cosmonauts Horlock Ranch Visit; CL 758 T-21 ASTP Training - US/USSR; and CL 743 ASTP Joint Crew Training in the Soviet Union.
CASI
Apollo Soyuz Test Project; Astronaut Training; Astronauts; Cosmonauts; Spacecrews

19940010937 NASA, Washington, DC, USA
The 1973 highlights
Dec 1, 1973; In English; 14 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-109624; NONP-NASA-VT-93-190422; ASR-106; No Copyright; Avail: CASI: C01, DVD

These highlights include man in space, Pioneer to Jupiter, Mariner to Venus and Mercury, sounding rockets, comet Kohoutek, Earth resources, and aeronautics.
CASI
Earth Resources; Kohoutek Comet; Mariner-Mercury 1973; Sounding Rockets

19940010938 NASA, Washington, DC, USA
The 1978 highlights
Dec 1, 1978; In English; 14 min. 30 sec. playing time, in color, with sound
Report No(s): ASR-166; NASA-TM-109625; NONP-NASA-VT-93-190423; No Copyright; Avail: CASI: C01, DVD

These highlights include the space shuttle, new astronauts, Pioneers to Venus, Voyagers to Jupiter and Saturn, High Energy Astronomy Observatories Space Telescope, Landsat/Seasat, space applications, wind energy research, and aeronautics.
CASI
Energy Technology; HEAO; Pioneer Space Probes; Space Shuttles

19940010939 NASA, Washington, DC, USA

The 1977 highlights

Dec 1, 1977; In English; 14 min. 30 sec. playing time, in color, with sound

Report No(s): ASR-154; NASA-TM-109626; NONP-NASA-VT-93-190424; No Copyright; Avail: CASI: C01, DVD

These highlights include the Space Shuttle, the Voyagers, Landsat, aeronautics, Spacelab, HEAO-1, and energy research.

CASI

Energy Technology; HEAO 1; Landsat Satellites; Space Shuttles; Spacelab

19940010940 NASA, Washington, DC, USA

The 1968 highlights

Jan 1, 1969; In English; 14 min. 30 sec. playing time, in color, with sound

Report No(s): ASR-49; NASA-TM-109627; NONP-NASA-VT-93-190425; No Copyright; Avail: CASI: C01, DVD

These highlights include the end of the Surveyor Program, planetary studies, Pioneers, Orbiting Geophysical Observatory, sounding rockets, radio astronomy Explorer, Orbiting Astronomical Observatory, Nimbus, lifting bodies, X-15 Program, XB-70, V/TOL, model research, jet noise reduction, flight safety, nuclear engines, Project Apollo (testing and training), and Apollo 5,6,7, and 8.

CASI

B-70 Aircraft; Flight Safety; Jet Aircraft Noise; Lifting Bodies; Noise Reduction; OAO; OGO; Pioneer Space Probes; Sounding Rockets; Surveyor Project

19940010942 NASA, Washington, DC, USA

The 1970 highlights

Dec 1, 1970; In English; 28 min. 30 sec. playing time, in color, with sound

Report No(s): ASR-70; NASA-TM-109628; NONP-NASA-VT-93-190426; No Copyright; Avail: CASI: C01, DVD

These highlights include the 1970 solar eclipse, Tiros, Nimbus, Intelsat, wake turbulence, the Peru earthquake, Oregon fishing grounds, Apollo 13, SI-C static firing, McDonnell/Douglas 90-day confinement test, and the moon from Galileo to 1971.

CASI

Earthquakes; Galileo Spacecraft; INTELSAT Satellites; Marine Resources; Solar Eclipses; Turbulent Wakes

19940010944 NASA, Washington, DC, USA

The 1971 highlights

Dec 1, 1971; In English; 14 min. 30 sec. playing time, in color, with sound

Report No(s): ASR-82; NASA-TM-109629; NONP-NASA-VT-93-190427; No Copyright; Avail: CASI: C01, DVD

These highlights include Mariner orbit of Mars, Interplanetary Monitoring Platform, Orbiting Solar Observatory, small scientific satellite, sounding rockets, Stratoscope 11, earth resources, aeronautics, jet noise abatement, airport runway safety, Apollo 14 and 15, and Skylab.

CASI

Accident Prevention; IMP; Jet Aircraft Noise; Mariner Spacecraft; Noise Reduction; OSO; Runways; Small Scientific Satellites; Sounding Rockets

19940010951 NASA, Washington, DC, USA

Sights and sounds of space

Nov 1, 1989; In English; 3 min. 19 sec. playing time, in color, with sound

Report No(s): ASR-251; NASA-TM-109610; NONP-NASA-VT-93-190408; No Copyright; Avail: CASI: C01, DVD

This video details the progress of the first musician's work, based on the STS-26 mission, in the NASA Fine Arts Program.

CASI

Music; Space Shuttle Mission 51-F

19940010961 NASA Ames Research Center, Moffett Field, CA, USA
Unitary plan wind tunnel landmark dedication and revitalization
Sep 1, 1990; In English; 21 min. playing time, in color, with sound
Report No(s): NASA-TM-109649; NONP-NASA-VT-93-190447; No Copyright; Avail: CASI: C01, DVD

This video shows construction scenes of unitary plan wind tunnel, aerials, and views of various models, including an MD-II in the 11 ft, an Apollo in the 8x7, Dynasoar in the 8x7, a one inch scale shuttle in the 8x7, and an artist's concept of a 12 ft test section.
CASI
Construction; Landmarks; Reconstruction; Test Chambers; Wind Tunnels

19940011035 NASA, Washington, DC, USA
The 1982 highlights
Dec 1, 1982; In English; 14 min. 30 sec. playing time, in color, with sound
Report No(s): ASR-214; NASA-TM-109671; NONP-NASA-VT-93-190469; No Copyright; Avail: CASI: C01, DVD

This video includes STS 3 & 4, Challenger completed, unmanned launches, the Hubble Space Telescope, Pioneers 8 & 9 encounter, Mars Pictures, Landsat 4, wind energy, ion-electric engines, solar powered medical system, medical image analysis, rotor systems research aircraft, XV-15, propfan research, aircraft icing studies, and Oshkosh Sirshow.
CASI
Aircraft Icing; Challenger (Orbiter); Hubble Space Telescope; Landsat 4; Mars 4 Spacecraft; Pioneer Space Probes; Prop-Fan Technology; Propeller Fans; Rotor Systems Research Aircraft; Space Transportation System; Space Transportation System 3 Flight; Space Transportation System 4 Flight; Windpower Utilization; XV-15 Aircraft

19940011036 NASA, Washington, DC, USA
The 1980 highlights
Dec 1, 1980; In English; 14 min. 30 sec. playing time, in color, with sound
Report No(s): ASR-190; NASA-TM-109672; NONP-NASA-VT-93-190470; No Copyright; Avail: CASI: C01, DVD

This video includes Voyager 1 to Saturn, Solar Maximum Mission, sounding rockets/balloons, Space Shuttle, GOES 4 weather satellite, Mount St. Helen's Research, wind energy, rotor systems research aircraft, quiet shorthaul aircraft, AD-1 Scissor Wing, and automated pilot advisory system.
CASI
Automated Pilot Advisory System; Balloon Sounding; GOES 4; Meteorological Satellites; Oblique Wings; Rocket Sounding; Rotor Systems Research Aircraft; Solar Maximum Mission; Space Shuttles; Voyager 1 Spacecraft

19940011596 NASA Johnson Space Center, Houston, TX, USA
History of the manned space flight program
Aug 1, 1990; In English; 13 min. playing time, in color, with sound
Report No(s): JSC-1159; NASA-TM-109529; NONP-NASA-VT-93-190326; No Copyright; Avail: CASI: C01, DVD

Astronaut Marsha Ivins tracks the history of America's space program, from Alan Shepard's Mercury flight to Space Shuttle flight STS-26.
CASI
Histories; Manned Space Flight; NASA Space Programs

19940014507 NASA, Washington, DC, USA
Langley's 50th year
Oct 1, 1967; In English; 14 min. 30 sec. playing time, in color, with sound
Report No(s): ASR-34; NASA-TM-109365; NONP-NASA-VT-94-198212; No Copyright; Avail: CASI: C01, DVD

This video gives an historical overview of Langley Research Center's major achievements in aeronautics and astronautics research between the years 1917-1967. Historical footage accompanies explanation of research into wind tunnel, spin tunnel, and hydrodynamic test tanks for studying aircraft airflow, wartime research into overwater combat ditching, diving, and

braking, the X series aircraft experiments with supersonic flight, helicopter and vertical Take Off and Landing (VTOL) aircraft, airport landing studies, and early prototypes for the Space Shuttle.
CASI
Histories; Hydrodynamics; Research Projects; Space Shuttles; Wind Tunnels

19940029067 NASA Lewis Research Center, Cleveland, OH, USA
NASA report to education, volume 6
Sep 1, 1989; In English; 26 min. 46 sec. playing time, in color, with sound
Report No(s): LERC-3044; NASA-TM-109818; NONP-NASA-VT-94-12946; No Copyright; Avail: CASI: C01, DVD

Segments include NASA Spacelink, STS-28 Mission, Voyager encounters Neptune, robotics development at GSFC, and the National Boy Scout Jamboree.
CASI
Computer Networks; Education; NASA Programs; Robotics; Space Exploration; Voyager Project

19940029283 NASA Lewis Research Center, Cleveland, OH, USA
Astronauts Part 5: Astronaut Collins
Jan 11, 1989; In English; 28 min. 57 sec. playing time, in color, with sound
Report No(s): LERC-3038; NASA-TM-109842; NONP-NASA-VT-94-13532; No Copyright; Avail: CASI: C01, DVD

This video is an interview with Michael Collins about his accomplishments, NASA's accomplishments, and the future.
LeRC
Apollo Project; Astronauts

19950004300 NASA Dryden Flight Research Center, Edwards, CA, USA
Dryden year in review: 1992
Jan 1, 1993; In English; 4 min. 30 sec. playing time, in color, with sound
Report No(s): NASA-TM-104285; NONP-NASA-VT-94-23632; No Copyright; Avail: CASI: C01, DVD

This video reviews the research work done at Dryden for the year 1992.
DFRC
General Overviews; NASA Programs; Research Facilities

19950004301 NASA Dryden Flight Research Center, Edwards, CA, USA
NACA/NASA history at Dryden, part 1 and 2
May 4, 1990; In English; 50 min. 30 sec. playing time, in color, no sound
Report No(s): NASA-TM-104287; NONP-NASA-VT-94-23633; No Copyright; Avail: CASI: C01, DVD

Two videos of raw material show examples of research activity at the center from the 1950's to the 1980's.
DFRC
Histories; NASA Programs; Research Facilities

19950004338 NASA Dryden Flight Research Center, Edwards, CA, USA
Dryden summer 1994 update
Jul 8, 1994; In English; 17 min. playing time, in color, with sound
Report No(s): NASA-TM-104305; NONP-NASA-VT-94-23650; No Copyright; Avail: CASI: C01, DVD

This video presents a complete, technically detailed report on all Dryden projects, achievements, and employee activities for 1994.
DFRC
Aeronautical Engineering; Research and Development; Research Projects

19950026963 NASA Johnson Space Center, Houston, TX, USA

Twenty-five years of progress. Part 1: Birth of NASA. Part 2: The Moon-a goal

JAN 1, 1984; In English; 60 min. playing time, in color, with sound

Report No(s): NASA-TM-110819; NAS 1.15:110819; CMP-178-0045B; NONP-NASA-VT-95-61007; No Copyright; Avail: CASI: C01, DVD

Historical footage (1958 - 1983) concerning NASA's Space Program, is reviewed in this two-part video. Host, Lynn Bondurant describes the birth of NASA and its accomplishments through the years. Part one contains: the launch of Russian satellite Sputnik on October 4,1957; the first dog (Soviet) in space; NACA Space Research, Explorer-6; and still photographs of various Space projects. Tiros 1 experimental weather satellite, Microgravity simulators, Echo 1 passive communications satellite, and the first U.S. manned spaceflight Mercury are included in part two. The seven Mercury astronauts are: Captain Donald Slayton, Lt. Commander Alan Shepard, Lt. Commander Walter Schirra, Captain Virgil Grissom, Lt. Col. John Glenn Jr., Captain Leroy Cooper Jr, and Lt. Malcolm Scott Carpenter. Also included are an ongoing interview (throughout the video) with NASA's first Administrator Keith Glennan, the first flight in 1961 with Enos, a chimpanzee, President Kennedy's speech in Washington about the Space Program, Project Gemini - the 2-manned space flights, and the recovery of Virgil Grissom from splash down.

CASI

Astronauts; Communication Satellites; Histories; Meteorological Satellites; NASA Space Programs; Space Flight

20010018719 NASA Kennedy Space Center, Cocoa Beach, FL USA

Beyond Earth's Boundaries

Oct. 01, 1987; In English; 5 min. 28 sec. playing time, in color, with sound

Report No(s): NONP-NASA-VT-2001023144; No Copyright; Avail: CASI: C01, DVD

An overview of the Lost River System (a method of detecting dry riverbeds) is given, including details on location identification and imaging techniques.

CASI

Imaging Techniques; Rivers; River Basins; Earth Observations (From Space)

20070031215 NASA Dryden Flight Research Center, Edwards, CA, USA

Six Decades of Flight Research: Dryden Flight Research Center, 1946 - 2006 [DVD]

Fisher, David F.; Parcel, Steve; May 2007; 5 pp.; In English

Report No(s): NASA/TM-2007-214617; No Copyright; Avail: CASI: C01, DVD

This DVD contains an introduction by Center Director Kevin Peterson, two videos on the history of NASA Dryden Flight Research Center and a bibliography of NASA Dryden Flight Research Center publications from 1946 through 2006. The NASA Dryden 60th Anniversary Summary Documentary video is narrated by Michael Dorn and give a brief history of Dryden. The Six Decades of Flight Research at NASA Dryden lasts approximately 75 minutes and is broken up in six decades: 1. The Early X-Plane Era; 2. The X-15 Era; 3. The Lifting Body Era; 4. The Space Shuttle Era; 5. The High Alpha and Thrust Vectoring Era; and 6. The technology Demonstration Era. The bibliography provides citations for NASA Technical Reports and Conference Papers, Tech Briefs, Contractor Reports, UCLA Flight Systems Research Center publications and Dryden videos. Finally, a link is provided to the NASA Dryden Gallery that features video clips and photos of the many unique aircraft flown at NASA Dryden and its predecessor organizations.

Author

Histories; NASA Space Programs; Flight Tests; Aircraft Design; Research Vehicles

Subject Term Index

SPACE TRANSPORTATION SYSTEM

Title Index

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