

## APPENDIX E

### Grants for the International Geophysical Year Program Made During Fiscal Year 1956

#### AURORA AND AIRGLOW

<i>Air Force Cambridge Research Center</i>	
Procurement of Patrol Spectrographs.....	\$157,400
Procurement of Scanning Spectrometers.....	24,300
Operation of Six-Station Antarctic Aurora and Airglow Network....	12,025
Operations at Sacramento Peak and Tonanzintla, Mexico.....	1,000
Operations at Thule, Greenland.....	2,950
Support of Cooperative Auroral Measurements in New Zealand....	3,350
Auroral Observations on Arctic Ice Floe and at Sachs Harbor, Canada.....	2,950
<i>Arctic Institute of North America</i>	
Operation of Six-Station Antarctic Aurora and Airglow Network....	94,000
<i>Cornell University</i>	
Visual Aurora Observation Program.....	4,600
<i>National Bureau of Standards</i>	
Procurement of Recording Photometers.....	28,000
<i>Stanford University</i>	
Meteor Radar Observations in the Antarctic.....	2,000
<i>University of Alaska</i>	
Construction of All-Sky Cameras.....	83,863
Procurement of Auroral Radar Equipment for Auroral Observa- tions.....	113,850

#### COSMIC RAYS

<i>Bartol Research Foundation</i>	
Shipboard Neutron Monitor Station.....	13,000
<i>California Institute of Technology</i>	
Balloon Flights with Ionization Chambers.....	6,900
<i>New York University</i>	
Construction and Operation of Neutron Monitor in Alaska.....	20,700
Counter Studies of Spectrum of Primary Cosmic Radiation and Its Time Variations.....	4,600
Search for Neutrons of Solar Origin.....	4,600
<i>State University of Iowa</i>	
Solar Effects on Cosmic Rays at High Altitude in the Arctic.....	9,000
<i>University of California</i>	
Construction and Operation of Air Shower Detectors.....	10,700
Time Variations of Neutron, Hard, and Soft Cosmic Ray Compon- ents.....	18,600
<i>University of Chicago</i>	
Measurements of Neutron Intensity from Icebreaker in the Antarctic	27,200
Measurements of Composition and Intensity of Primary Cosmic Radiations.....	22,050
Study of the Isotopic Constitution of Cosmic Radiation at Balloon Altitudes.....	4,300

*University of Maryland*

Construction and Operation of a Cosmic Ray Monitor Telescope  
in the Antarctic..... \$40, 800

Construction and Operation of a Cosmic Ray Monitor Telescope  
in the Arctic..... 19, 550

*University of Minnesota*

Measurement of Cosmic Ray Intensity at High Altitudes..... 120, 550

*University of Nebraska*

Atmospheric, Geomagnetic, and Solar Influences on the Mu-Meson  
Component of Cosmic Radiation..... 7, 860

Atmospheric, Geomagnetic, and Solar Influences on the Nucleonic  
Components of Cosmic Radiation..... 14, 725

*University of New Mexico*

Studies of the Semi-Diurnal Planetary Variation of Atmospheric  
Pressure..... 10, 000

*Yagoda*

Study of Low-Energy, Heavy Primary Cosmic Rays Near Mag-  
netic Poles..... 900

## GEOMAGNETISM

*Air Force Cambridge Research Center*

Sub-Audiot-Frequency Geomagnetic Fluctuations..... 50, 000

*United States Coast and Geodetic Survey*

Operation of Geomagnetism Headquarters..... 55, 000

Operation of Magnetic Observatories at Three Antarctic Stations... 108, 500

Operation of Western Pacific Magnetic Observatories..... 120, 000

Operation of East-West United States Geomagnetic Network..... 84, 000

Operation of North-South Alaska Geomagnetic Network..... 75, 000

Magnetic Gradient Studies at McKinley Park and Big Delta,  
Alaska ..... 87, 000

Operation of Magnetic Observatory at College, Alaska..... 177, 000

Operation of Rapid-Run Auxiliary Magnetographs..... 76, 000

Procurement and Operation of Visible-Recording Magnetic Vario-  
meters..... 25, 000

Equipment for Jarvis and Palmyra Magnetic Stations..... 48, 500

Operations at Antarctic Knox Coast Station..... 40, 000

Equipment for Antarctic Cape Adare Magnetic Station..... 11, 700

Equipment for Arctic Ice Floe Magnetic Station..... 15, 500

*University of California, Scripps Institution of Oceanography*

Operations at Jarvis and Palmyra Islands..... 30, 000

## GLACIOLOGY

*American Geographical Society*

Glacier Observations in Southern Alaska..... 8, 575

*Arctic Institute of North America*

Procurement of Antarctic Glaciological Equipment..... 19, 900

Glaciological Personnel..... 210, 650

Operation of the Glaciological Headquarters..... 19, 250

Glaciological Program, Mount Michelson, Alaska..... 14, 385

Arctic Sea Ice Physics..... 9, 500

*Army, Corps of Engineers*

Antarctic Deep Drilling Program..... 30, 600

Procurement of Antarctic Glaciological Equipment..... 43, 400

<i>University of Washington</i>	
Glacial Meteorology, Blue Glacier-----	\$11, 240

## GRAVITY MEASUREMENTS

<i>Arctic Institute of North America</i>	
Traverse Personnel-----	53, 760
<i>Boston College</i>	
Procurement of a Gravimeter for the Antarctic-----	9, 050
<i>California Institute of Technology</i>	
Procurement of a Gravimeter for the Antarctic-----	9, 050
<i>Columbia University</i>	
Procurement of a Gravimeter for the Antarctic-----	9, 050
Submarine Pendulum Measurements of Gravity-----	28, 910
Submarine Gravity Measurements-----	5, 000
<i>University of California</i>	
Measurement of Mean Rigidity of the Earth-----	8, 400
<i>University of Wisconsin</i>	
Antarctic Pendulum Measurements of Gravity-----	11, 400
Procurement of a Gravimeter for the Antarctic-----	9, 050
<i>Woods Hole Oceanographic Institution</i>	
Pendulum Measurement of Gravity-----	10, 000

## IONOSPHERIC PHYSICS

*Dartmouth College*

Atmospheric Whistler Program, Eastern Area-----	15, 000
<i>National Bureau of Standards</i>	
Procurement of Vertical Incidence Ionospheric Sounders-----	81,700
Cooperative Operation of Huancayo Sub-Center and Two Peruvian Stations-----	55, 400
Operation of Antarctic Six-Station Ionospheric Network-----	311, 200
Cooperative Operation of South American Ionospheric Stations--	85, 400
Personnel Training and Data Quality Control-----	103, 870
Equatorial VHF Ionospheric Forward-Scatter Measurements-----	263, 000
Radio Noise Measurement-----	86, 300
Oblique-Incidence Sporadic-E Layer Measurements-----	116, 300
Equipment for Arctic Ice Floe Ionospheric Station-----	18, 100
<i>Stanford University</i>	
Atmospheric Whistler Program, Western Area-----	2, 000
Fixed Frequency Back Scatter Measurements-----	167, 700
<i>University of Virginia</i>	
Radio Star Scintillation and Atmospheric Winds-----	25, 000

## METEOROLOGY

<i>United States Weather Bureau</i>	
Operation of Antarctic Six-Station Meteorological Network-----	656, 110
Cooperative Operation of South American Upper Air Observation Stations-----	434, 200
Operation of Antarctic Weather Central-----	44, 930
Antarctic Atmospheric Geochemical Measurements of Carbon Dioxide and Surface Ozone-----	42, 275

## OCEANOGRAPHY

<i>Columbia University</i>	
Operation of Atlantic Oceanographic Island Observatories-----	\$92, 800
Deep Current Program, Atlantic-----	23, 380
CO <sub>2</sub> Analysis and Radiochemistry of Sea Water-----	30, 000
<i>Navy, Bureau of Ships</i>	
Procurement of Bathythermographs-----	15, 000
<i>Navy, Hydrographic Office</i>	
Photographic Reconnaissance of Arctic Sea Ice-----	32, 000
<i>University of California, Scripps Institution of Oceanography</i>	
Operation of Pacific Island Oceanographic Observatories-----	34, 500
Deep Current Program, Pacific Ocean-----	22, 420
CO <sub>2</sub> Analysis and Radiochemistry of Sea Water-----	30, 000
<i>Texas Agricultural and Mechanical College</i>	
Deep Current Program, Atlantic-----	2, 070
CO <sub>2</sub> Analysis and Radiochemistry of Sea Water-----	21, 000
<i>University of Washington</i>	
CO <sub>2</sub> Analysis of Sea Water-----	10, 000
Operation of North Pacific Island Oceanographic Observatories--	5, 300
Deep Current Program, North Pacific-----	8, 050
<i>Woods Hole Oceanographic Institution</i>	
Deep Current Program, Atlantic-----	11, 180
CO <sub>2</sub> Analysis and Radiochemistry of Sea Water-----	21, 000
Arctic Oceanography-----	20, 000

## ROCKETRY

<i>Air Force Cambridge Research Center</i>	
Air Force Cambridge Research Center Aerobee Rocket Program at Fort Churchill, Canada-----	70, 000
<i>Army, Signal Corps</i>	
Meteorological Support for Fort Churchill Rocket Program-----	12, 000
Rocket Program at Guam-----	184, 500
Signal Corps Engineering Laboratories Aerobee Rocket Program at Fort Churchill, Canada-----	113, 000
<i>Navy, Naval Research Laboratory</i>	
Rocket Program in the Pacific San Diego High Area-----	54, 000
Naval Research Laboratory Aerobee Rocket Program at Fort Churchill, Canada-----	154, 000
Rocket Program in the Antarctic-----	50, 000
Contractor Services for Fort Churchill Rocket Program-----	95, 800
<i>Navy, Ballistics Research Laboratory</i>	
Ballistics Research Laboratories Aerobee Rocket Program at Fort Churchill, Canada-----	90, 000
<i>State University of Iowa</i>	
Rocket Program in the Arctic-----	183, 000
Rocket Program in the Antarctic-----	155, 000

## SEISMOLOGY

<i>Arctic Institute of North America</i>	
Personnel for Antarctic Stations and Traverse Parties-----	140, 070
<i>Boston College</i>	
Procurement of Antarctic Seismographic Equipment-----	23, 550

*California Institute of Technology*

Procurement of Antarctic Seismographic Equipment.....	\$36,750
Study of Crustal Strain Accumulation.....	11,500

*Columbia University*

Procurement of Antarctic Seismographic Equipment.....	17,775
Seismic Exploration of Atlantic Ocean.....	20,980
Study of Long Period Seismic Waves.....	62,100
Study of Lg Phase.....	13,800
Arctic Seismology.....	11,500

*University of Wisconsin*

Procurement of Antarctic Seismographic Equipment.....	23,550
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*United States Coast and Geodetic Survey*

Antarctic Teleseismic Measurements.....	14,500
Arctic Seismograph Measurements.....	11,500
Pacific Island Seismograph Measurements.....	12,000

## SOLAR ACTIVITY

*Air Force Cambridge Research Center*

Procurement of Flare Patrol Equipment for Sacramento Peak.....	9,000
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*High Altitude Observatory*

Procurement of Flare Patrol Equipment.....	25,000
Supervision of Hawaiian Flare Patrol Program.....	5,000

*Navy, Naval Research Laboratory*

Procurement of Flare Patrol Instrument and Filters.....	81,000
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*Rensselaer Polytechnic Institute*

Indirect Flare Detection Instrumentation.....	2,000
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*University of Hawaii*

Solar Radio Noise Patrol.....	7,250
Solar Activity Flare Patrol.....	5,000

## EARTH SATELLITE

*Air Force Cambridge Research Center*

Instrumentation for Detection of Extreme Ultraviolet Solar Radiation.....	1,000
Measurement of Interplanetary Matter from the Earth Satellite.....	89,045

*Army, Signal Corps Engineering Laboratories*

Meteorological Observations from the Earth Satellite.....	35,000
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*National Academy of Sciences*

Scientific Coordination of Earth Satellite Program.....	50,000
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*Navy, Naval Research Laboratory*

Earth Satellite Launching-Propulsion Vehicles.....	5,800,000
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*Smithsonian Institution*

Optical Tracking Program Study.....	49,910
Development of Prototype Optical Tracking Equipment.....	125,000
Installation and Supervision of Optical Tracking Stations.....	923,100
Operation of Optical Tracking Stations.....	39,100
Visual Observing Program.....	24,000
Operation of Optical Tracking Analysis Center.....	63,200
Administrative Costs of Optical Tracking Program.....	50,600

*State University of Iowa*

Earth Satellite Instrumentation.....	59,685
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## NATIONAL SCIENCE FOUNDATION

## RELATED SCIENTIFIC SUPPORT

<i>American Geographical Society</i>	
Construction of Antarctic Map-----	\$8,500
<i>National Academy of Sciences</i>	
Coordination and Editorial Offices, International Special Committees-----	20,000
Staff Study of United States World Data Center Establishment----	30,100
Support of the United States National Committee-----	289,000
<i>United States Weather Bureau</i>	
Antarctic Planning Staff-----	85,234
Procurement of Miscellaneous Supplies for Antarctic Bases-----	54,340
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Total-----	14,789,817