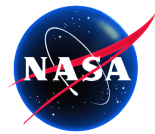


Resources and Results: GO Observations, Archive, and Publications

Koji Mukai
Suzaku Guest Observer Facility



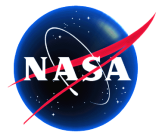
The Essentials



- The Suzaku GOF web site is at <http://suzaku.gsfc.nasa.gov/>
- The Suzaku archive is at the HEASARC (as well as at ISAS)
- ~87% of Suzaku time is competed via an AO process; US PIs have access to ~1/2 of this
- The remaining ~13% used for calibration, satellite maintenance, and for Director's Discretionary observations (including real-time TOOs)
- As of 2008 August, there are ~120 Suzaku papers in print in refereed journals



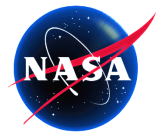
A Typical Observation



- ~80 ksec exposure spread over 2 calendar days, interrupted by Earth occultation and SAA (but no slewing back and forth)
- Multiple pointings per object in some cases
 - Tracking comets
 - Monitoring
 - Extended objects (SNR, clusters, ...)
- Low and stable background both for the XIS and the HXD
- Emphasizes X-ray spectroscopy - wide-band, low background for diffuse sources, better resolution at low energy etc.
- Objects from comets to cosmological gamma-ray bursts have been observed



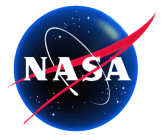
US GO Observations



- (SWG time: launch-2006 Mar): 215 “sequences” (individual pointings) obtained
- AO-1 (2006 Apr-2007 Mar): 121 US/USJ sequences obtained
- AO-2 (2007 Apr-2008 Mar): 157 US/USJ sequences obtained
- AO-3 (2008 Apr-2009 Mar): 43 US/USJ sequences obtained to date
- AO-4 (2009 Apr-2010 Mar): Proposal deadline is **Dec 5!**
 - 2 Ms of Key Project time and ~4.5 Ms of normal GO time at stake
 - Roughly \$25K per successful proposal in grant support



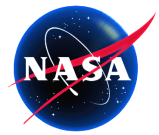
Real-Time TOO



- “Generic TOO” proposals are not allowed (cannot reserve TOO for “the next Galactic supernova” etc.)
- Real-time TOO requests are allowed via <http://astro.isas.jaxa.jp/suzaku/planning/gtoo/>
- So far, 12 observations of 11 objects done as Real-time TOOs
 - 2 classical novae (3 pointings)
 - 2 magnetars (1 AXP, 1 SGR)
 - 3 X-ray transients (1 pulsar, 2 BHCs)
 - 1 Blazar
 - 3 GRBs (need Suzaku team member on the team to enable rapid enough response)
- A few days response time is often possible



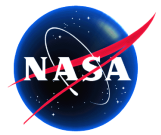
Archive



- Normal observations become public 1 year after PI received processed data
 - Exceptions were made if calibration was inadequate for analysis
- Calibration data, real-time TOO's, and Long Program observations are immediately public
- As of 2008 August, there are 578 sequences in the public Suzaku archive
 - 75 “Galactic Compact” (stars, CVs, XRBs, ...)
 - 132 “Galactic Diffuse” (Comets, SNR, ...)
 - 90 “Extragalactic Compact” (mostly AGN)
 - 83 “Extragalactic Diffuse” (galaxies, clusters, ...)



Calibration Status



In general, the XIS and the HXD/PIN are calibrated well enough for most purposes

- The HXD/GSO calibration will be updated in the near future
 - Current calibration with an ad-hoc “arf filter” can be used at some level; this is due in part to inaccurate gain calibration
- XIS performance is slowly evolving; user-reprocessing with latest calibration file may be necessary in some cases
- HXD/PIN “tuned” background model (released 2008 June) has an estimated systematic uncertainty of ~1.3%, resulting in a very high sensitivity (5-sigma detection at $\sim 1 \times 10^{-11}$ ergs $\text{cm}^{-2}\text{s}^{-1}$ level)



Suzaku Results: Some Highlights

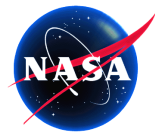


- Studies of relativistic Fe K lines in BH/NS X-ray binaries and in AGN
- Detection of Cr and Mn lines in Tycho SNR, and the inference that the progenitor had a supersolar metallicity
- Study of the cluster PKS 0745-191 out beyond the virial radius
- Study of solar-wind charge exchange/Galactic diffuse soft X-ray emission

You will hear many fine results during this symposium today



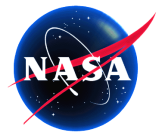
Suzaku Papers



- ISAS maintains the official Suzaku bibliography http://www.astro.isas.jaxa.jp/suzaku/bibliography/journals/astrophysics_reversed.html (may be somewhat incomplete, currently lists 107 papers)
- Two Suzaku special issues in PASJ, third in press
 - No. 1 (V59, SP1): 7 instrument papers, 23 astrophysics papers
 - NO. 2 (V60, SP1): 4 instrument papers, 31 astrophysics papers
 - Dominated by Japanese and/or SWG lead authors
- ADS returns 121 refereed papers with “Suzaku” in the title or the abstract
 - 23/4/7 papers in ApJ/MNRAS/A&A
 - I count only 23 papers by a US lead-author
- We could use more US GO-led papers!



Suzaku Conferences



- “The Extreme Universe in the Suzaku Era”,
Kyoto, 2006 December
 - Proceedings (a few copies available)
- “The Suzaku X-ray Universe”, San Diego,
2007 December
 - Viewgraphs from the oral presentations available
at
[http://heasarc.gsfc.nasa.gov/docs/suzaku/sandieg
o2007/](http://heasarc.gsfc.nasa.gov/docs/suzaku/sandieg
o2007/)
- Next conference is being planned in Japan in
2009 May (to be confirmed)