

# Toward the Senior Review

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## Senior Review proposal details

- Due March 12, 2008
- Competing against: XMM, INTEGRAL, RXTE, Swift, Galex, WMAP, Spitzer and Chandra
- Maximum length 15 pages (+ 8 pages for EPO)
- Science and technical sections
- Provide baseline and overguide budgets
- Primary judgment criterion is “science per dollar”

# Proposal Content

- Science section
  - Scientific merit of full proposed program
  - Specific contributions of instruments
  - How the proposed program will discover and communicate new scientific knowledge in line with NASA's goals
  - What has been accomplished to date
- Technical section
  - Technical status of mission components (instruments, spacecraft, ground system)
  - Description of tasks to be performed

## Help needed from user committee

- Establish science goals for next 2-4 years
- Contribute to science section (~1 page + figure(s) on each topic)
- Advise on proposal strategy
  - GO grants
  - Composition of science program

# Science Goals from Previous Proposal

- Test the black hole-accretion disk paradigm through detailed studies of the Fe K line and reflection component in dozens of AGN and X-ray binaries
- Observe a large sample of AGN discovered with Swift to constrain their contribution to the hard X-ray background
- Measure the non-thermal emission from clusters as a signature of high-energy cosmic rays
- Disentangle the multiple components that contribute to the soft X-ray background
- Determine the chemical composition (CNO) in a variety of environments in the ISM of the Milky Way and nearby galaxies

## Factors in senior review strategy

- New mission synergies – GLAST, SZ surveys (+)
- Data sharing agreement with JAXA/ISAS (?)
- Evolution to large programs (and key projects?) (+?)
- Ramp up of Suzaku papers just happening (?)
  - Slower than other missions
  - Can be traced in part to instrument complexity
- US GOF has barely kept up with calibration and processing issues; documentation has lagged (-)
  - Need to sustain US GOF at current level (1 full time, 2 part time scientists)

## Large projects / Key projects

- Suzaku introduced large projects in AO3
  - 1-2 Ms set aside for large projects (long observations, large collection of observations)
  - Projects assessed at national reviews
  - Merging committee changes national review recommendation only in event of conflict
- US received 9 proposals, Japan 2

## Large projects / Key projects

- Substantial discussion this week about key projects
- Major dedicated allocation of spacecraft time
- Could be entirely within US program, but much better if done jointly
- Implementation ideas
  - Time comes off the top (separate from AO time)
  - All data immediately public
  - Project calls for large project white papers (not proposals), convenes small panel to rank
  - 1-2 new key projects at any one time
  - Targets either preselected or suggested by proposal
  - Some funding mechanism in US through project



## Some key project ideas

- Survey of 500 relaxed clusters
- Follow up of BAT and INTEGRAL AGN
- LMXB monitoring
- Deep SNR observations to find low abundance nucleosynthesis products
- Survey of all unidentified HESS galactic sources
- Search for ejecta in old SNRs by extensive mapping

## FY09–FY10 Budget

- GO grants sustained at current level
- GOF support sustained at current level
- Instrument team funding disappears by end of FY10
  - Funds MIT support for XIS, GSFC instrument science support
- EPO is slowly drawn down