

Minutes2021_12_14

Agenda

Mission Update / Status (~10 min, Karl)

NuSTAR's Senior Review Proposal

- Presentation (~20 min, Daniel)

- Discussion (~20 min, all)

Future Topics / Any other business brought by members (~5 min, all)

Attendance

Dan Wik, Karl Forster, Marco Ajello, Andrea Marinucci, Aarran Shaw, James Steiner, Enrico Bozzo, Rich Terrile, Dan Stern, Katja Pottschmidt, Joel Coley, Tod Strohmayer

Notes from meeting

Karl Forster - Observatory Status

- no issues with spacecraft subsystems
- minor degradation in battery (10+ years still)
- laser metrology system
 - intensities had been degrading worryingly
 - but adjustments have stabilized that (10+ years lifetime also), thanks Hanna
 - effort toward operations with 1 laser only, ready to implement next year
- Major calibration update due to >9 years of Crab data
 - changes to effective area (5% for on-axis point sources, a bit higher off-axis)
 - better agreement with XMM EPIC-pn
- Ground station in French Guinea — Kourou (ESA), for bright targets

- Cycle 8 GO, oversubscription >4 still, esp. ToO and joint NICER
 - slight uptick this past year 😊
 - exclusive use period reduced to 6 months
 - increase joint time?
 - IXPE joint time next cycle?
 - joint w/Chandra, XMM, Swift also - Swift is undersubscribed
 - in future, possible to have joint time with TESS? XMM may make more sense though
- Orbital decay
 - 595-600 km altitude currently
 - expected this solar cycle will be mild, should drop a bit but not significantly
- 1000 refereed papers!

Daniel Stern - Senior Review

- Senior review is process (every 3 years) to extend NASA missions beyond original mission timeframe, NuSTAR's next proposal is due in January
- Mid January, NUC will get a ~20 page early draft to review
- Outline can be sent out today to get a sense of what it will contain
- Large Program is less oversubscribed so far
 - allocate more/less time to it?
 - NUC should assess appropriate allocation
- PMO: primary mission objectives, define goals of missions for next 3 years
 - e.g., Swift BAT program 20 ks observation of all sources as fill in
- Jack: who is audience of proposal? scientists? HQ?
 - last time David Weinberg chaired panel, other (largely X-ray) scientists
 - final decisions made by HQ, but they follow recommendation of panel in healthy budget times

- 7 pages of science highlights, we can suggest other highlights
 - first draft of this, will distribute today to NUC
 - based on press releases and highly cited papers
 - can suggest other items
 - Dan: let future science promise be defined by community, unlikely to dive in here
 - Rich & Aarran: highlight capabilities / synergies with other observatories (GW follow-up, ToOs, etc.)
- Aarran: NuSTAR, NICER, Swift all reviewed by the same committee, how much discussion is there b/t NuSTAR and other missions? - not much discussion really, drafts are typically not shared between missions
- Dan: how are recommendations dealt with in past? - pretty benign overall last time, just requested more detail on success of large programs, panel liked Swift BAT program but HQ didn't so much, wanted it eliminated, so a discussion followed but HQ followed panel in the end; bolstered expansion of ToO program as proposed
- NOW: review current
- Due February 11th
- At HQ, each mission gets 90min to present by PI to panel and get quizzed (end of March / early April)
- Katja: GOFs talking to each other about senior review proposals
 - have been discussions related to EDI, to have uniform statements, including funds and resources, senior review has a requirement to discuss this in proposal
 - Tod: GOFs at GSFC interested in combining funding to do more since funding often tight - pooling resources not been done before, unclear how HQ would react
 - e.g., fund proposal-writing workshop, REU / internship program supplement or specifically for HBCUs, separate grad student workshops
- Katja: update list of PhD theses that use NuSTAR data, through 2019 is complete but need 2020 / 2021 to add to it - info kept up to date at HEASARC

- send an email to all NuSTAR proposers to help collect info

Aarran: AAS attendance is weak for NUC (just Dan W., Aarran, and Jack mentioned attending), but the HEAD meeting in March should have a larger attendance

- Good opportunity to discuss success of large programs, other potential items that come up while the senior review proposal is being put together

Senior Review Timeline

- December: NUC reviews SR proposal outline with a particular focus on science highlights from last 3 years, suggests other results, comments on current ones, etc, in a unified google doc or equivalent
- mid-January: NUC reviews full draft of SR proposal at a top level for content, makes suggestions again organized in a joint google doc or equivalent
- February: SR proposal submitted