

Detectors and Background WG

18th IACHEC, April 2026

- On the X-ray and particle background at L2 – Michael Freyburg
 - Detailed study of flaring background, comparing eROSITA/XMM/ACE. Paper in prep
- NICER SCORPEON Background Model – Craig Markwardt
 - Physically-motivated, multi-component model. Could be adapted to other (simpler?) orbits
- In-Orbit Instrumental Background of Resolve on XRISM – Caroline Kilbourne
 - Low background rate, correlation studies are difficult, atomic data important
- Flaring events seen by XRISM/Xtend during night-Earth Observations – Hiromasa Suzuki
 - Primarily high latitude, 5-10 min duration. Precipitating electrons? Also nice multi-mission background spectrum comparison
- Relative Energy Calibration Accuracy of XRISM/Resolve and NuSTAR – Megumi Shidatsu
 - Offset of NuSTAR from Resolve comparable to systematic energy uncertainty

Working group purpose:

- Providing a forum for cross-mission discussion and comparison of detector-specific modeling and calibration issues
- Measuring and modeling instrument background in the spatial, spectral, temporal, and orbital dimensions

Possible topics to solicit for next year:

- Experience with and expectations for large focal planes with hundreds/thousands of independent pixels (CMOS and XIFU)
 - Methods for gain/resolution calibration
- Improvements in measuring and modeling background at L1/L2
 - NewAthena has fairly tight requirements on background knowledge
- Other suggestions?