

Detectors and Background WG

16th IACHEC, May 2024

- SMILE SXI tools to model and tackle radiation damage effects – Claudio Pagani
 - CTI will be significant by EOL; physically motivated model; ground radiation testing
- ACIS Gain Corrections with Cas A & Perseus – Nick Durham
 - Principal Component Analysis to fill in illumination gaps
- XMM-Newton EPIC-pn: update to the long-term CTI correction – Ivan Valtchanov
 - Incremental update, all modes, out to t=30 years!
- On Pileup in Chandra/ACIS - Vinay Kashyap
 - Improving on current pileup modeling: hierarchical Bayesian modeling; Neural Network

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, and temporal dimensions

Possible topics to solicit for next year:

- On-orbit experience with CMOS (LEIA, EP WXT, ??)
 - Thousands of independent pixels; gain calibration?
- Updates from newer CCD missions (XRISM Xtend, EP FXT, ??)
 - Any calibration / operation challenges?
- Background at L2 (upcoming eROSITA publication)
- Other suggestions?