

Detectors and Background WG

Plans for May 2022

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- While the WG has been essentially dormant during COVID-times, important work continues on
- Much progress has been made since last meeting in May 2019
- Start thinking now about how you and your project might contribute at the next IACHEC in May 2022
 - New instrument modes, analysis tools, detector models...
 - Background measurements, modeling, simulating...

Some topics for May 2022: Detectors

- Detectors newly launched or in development
 - eROSITA and ART on SRG, IXPE, XPoSat, XRISM, SVOM, SMILE
- Detectors surviving decades on orbit
 - Radiation damage, changes in operation
- Specialized analysis tools, detector-specific calibration issues
- Future instruments include large FOV, big focal planes, more pixels and readout nodes
 - Increased calibration challenges

Some topics for May 2022. Backgrounds

- New analysis of old missions
 - XMM-pn & XMM-MOS – using spatial, spectral, and temporal information to disentangle the components of the particle background (e.g. Marelli+ 2021)
 - XMM – quiescent PB spectrum depends on magnetospheric position (Kuntz)
 - Chandra ACIS – characterizing spatial/temporal variations and spectral-model generation tool (Suzuki+ 2021)
- Two types of NICER background estimator tools
 - Space weather based vs empirical using background proxies in the NICER data
- Continued experience of eROSITA at L2
- Ongoing simulation and mitigation effort for Athena

Hope to see many of you next May!

- Your homework:
 - Think of subjects you'd like to hear about
 - Give a talk on your own work
 - Volunteer your colleagues to make a presentation
- Email me — cgrant@mit.edu
- Join the [#detectorsbackground](#) channel in the IACHEC Slack workgroup