Detectors and Background WG

- Started in 2010 as CCD WG at Woods Hole
  - Not a typical IACHEC Working Group
  - Presentations and discussion
  - Topics too esoteric for larger plenary sessions
- Combined with the Background WG in 2014
- Broadened from CCDs to Detectors in 2018 (CZT! SDD!)
- Two sessions of presentations in 2019:
  - Wide range of past, current, and future missions:
  - Chandra ACIS, NuSTAR, Suzaku XIS, XMM EPIC-pn, Athena WFI & X-IFU, Einstein Probe WXT
Detectors Session, Monday

• Calibrating long term trends in gain & response due to changes in:
  • EPIC-pn CTI & quiescent background (Valtchanov)
  • ACIS CTI & Thermal Control (Durham)
  • NuSTAR Gain (Miyasaka)

• Getting the details right
  • ACIS gain droop in the central columns (Gaetz)
  • NuSTAR low-energy response (Miyasaka)
  • Suzaku XIS Si-K edge (Hayashida)

• Novel clocking mode to reduce pileup (Murakami)
Background Session, Wednesday

- Simulations for new missions
  - Athena X-IFU (Stever)
  - Athena WFI (Miller)
  - Einstein Probe WXT (Zhao)
- On-orbit measurements
  - Hitomi HXI (Suzuki)
  - Chandra ACIS (Gaetz)
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Summary thoughts...

• As existing missions go deeper, and planned missions get more ambitious, understanding and modeling background and detector response only gets more important!

• For next year, hope to hear about:
  • Empirical background models for use in spectral fitting
  • Many separate Geant4 simulation projects, any specific issues that need discussing?
  • eROSITA!