

Relative Effective Area and Calibration Campaigns

Herman L. Marshall, Andy Beardmore, Larry
David, Moto Kokubun, Deron Pease, Rick
Rothschild, Martin Stuhlinger

Drivers

- Count rate limits --> sources can't be used
 - Energy range (e.g. WDs, NSs)
 - Sensitivity
 - Optical light leaks
 - Pileup
- Point sources and hard sources vary
 - catch ToOs (at help of XTE ASM, Swift)
 - need some blazars when bright
 - variability is too fast
 - few sec is too fast
 - few days is ok, usually
- Observing restrictions
- Timing calibration
- Line lists (e.g. coronal sources)
- All issues apply to internal cross-cal

Some campaigns

- Cen A
 - Suzaku, Integral, Swift, RXTE
- Crab for timing: RXTE, Suzaku, Swift
- Blazars
 - PKS 2155: XMM, Suzaku, Swift, Chandra
 - Mk 421: XMM, Swift
 - 3C 273
 - Chandra, ASCA, BeppoSAX
 - XMM, Chandra
 - XMM, Integral, Swift (?)
 - 1H1426+428
 - XMM, Chandra
 - XMM, Galex

What's been done

- Swift
 - Low E EA adjusted 15% based on 3C 273
 - Spectral parameters agreed after fix
 - Added a fast timing mode
- RXTE
 - Differences — spectral slopes & norms
 - Need agreement on “correct” values
- Chandra
 - Internal fixes mostly done
 - Issues now cropping up in XMM cross-cal
- Suzaku -- internal adjustments only
- XMM
 - Changed RMFs to match NH from LETGS
 - Many adjustments due to internal cross-cal
 - Issues now in Chandra cross-cal

Need to Do

- Agree on Crab spectrum (see NT SNR WG)
- Complete check using Cen A (RR)
- Prepare for cross-cal with other missions
 - GLAST: Madejski (SLAC) (RR)
 - Astrosat: Will call (AB)
 - AGILE: (TBD)
- Continue XMM-Chandra cross-talk (MS, HLM)
- Joint analysis
 - Mission cal scientists support
 - Start with e-mail support
 - Put points of contact on IACHEC web page

Points of Contact

- RXTE: Rick Rothschild
- Chandra: Herman Marshall
- XMM: Martin Stuhlinger
- Suzaku: Moto Kokubun
- Swift: Andy Beardmore
- INTEGRAL: TBD
- New missions: TBD