Clusters WG session report
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χ^2 v.s. c-statistics

- Hard band PN fits to the 11 clusters in the A&A 2010 paper

- 1T MEKAL model

- Average difference in temperature 0.6%, max. difference 1.5%

- C-statistics values systematically higher

Agenda

1) Chandra/XMM soft band problems

2) Suzaku extension

3) Chandra/XMM flux problems

4) Deeper observations of the hottest clusters for better statistics of the FeXXV/XXVI line ratio measurement

5) Extend the XMM/Chandra comparison to contain all useful HIFLUGCS clusters and pointings available in 2011

6) Swift extension

7) Data to IACHEC WIKI page

8) MOS gain and redistribution calibration using cluster FeXXV K alpha line

1) Chandra/XMM soft band problems

TBD

- Confirm the systematic effects with different objects? SNR?

- See if Suzaku or Swift soft band temperatures agree with XMM-Newton or Chandra

2) Suzaku extension

Suzaku extension

- Work in progress (see Kimmo Kettula's presentation):

    - XIS0 disagrees with XIS1 and XIS3

    - Should decrease the XIS0 contamination or increase XIS1 and XIS3 by few 10^{17} cm^{-2}

TBD

- Produce arfs with different levels of contaminate to see what is needed to resolve XIS0 v.s. XIS1,3 problem for A1795

- Estimate the PSF scatter for A1795

- Write up the stuff and contact Tsujimoto

- Then what? (Is it realistic to get XIS:s calibrated using clusters?)

3) Chandra/XMM flux problems

TBD

- J. Nevalainen and L. David will examine in more detail some of the most problematic cases

- ROSAT PSPC? S. Snowden is working on a T-profile comparison btw. several instruments. Will provide ROSAT spectra for XMM/Chandra flux comparison.

- Chandra/XMM point source cross correlation ...L. David

4) Deeper observations of the hottest clusters for better statistics for the FeXXV/XXVI line ratio

FeXXV/XXVI line ratio

- Motivation: line ratio measurement adds an nearly continuum-independent temperature estimate, not affected much by the shape of the effective area

- Need to use all useful XMM data and make a physics paper on bremsstrahlung/ionisation temperature comparison, then evaluate if more time needed

- Need more photons to do this with Chandra. Calibration time is too limited. Need a physics proposal, but the physics can be done with XMM

5) Extend the XMM/Chandra comparison to contain all useful HIFLUGCS clusters and pointings available in 2011

HIFLUGCS extension

- More data points, better statistics, results more reliable, can make distributions of parameters of interest

- Do smaller bands instead of soft and hard band to characterise better the energy dependence, do lower than 0.5 keV, up to 10 keV

- Different patterns

- MOS1 and MOS2 separately

- Could study cross-calibration accuracy as a function of time?

- Which clusters observed with both XMM and Chandra?

- Is this a paper?

6) Swift extension

TBD

- Swift/XRT can be used for the cluster comparison

- A.Breadmore will contact Moretti

- Comparison of temperatures and fluxes btw. EPIC and Swift/XRT

- Then what?

7) Data to IACHEC Wiki page

Wiki

- One tar file per cluster, containing spectrum, bkg, rmf, arf, xspec session file and README file

- Analysis scripts also?

- Repeat for new important calibration changes

- Cluster/obsid/instrument/CALDB/

- J. Nevalainen will do one cluster first in April 2011 and ask for user comments, then do the rest

- More info on the WG

- Link to WG memos

8) MOS gain and redistribution calibration using cluster FeXXV K alpha line

TBD

- To do cluster physics with Fe XXV line need to know the gain, energy resolution and redistribution very accurately

-   J. Nevalainen, M.Stuhlinger and S. Sembay will further investigate

- PN?