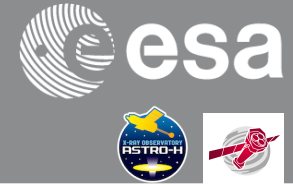# "Legacy" IACHEC Working Group: the first steps

Matteo Guainazzi[1] & Andy Pollock[2]

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[2]GAIA and multi-mission Archive Scientist, ESA-SOC, ESA, Spain

European Space Agency

# Scope

- ➢ Provide a platform for the discussion of experiences coming from operational mission
- ➢ Consolidate and formalize a set of good practices for the management of pre- and post-flight calibration data and procedures
- ➢ Ensure the usage of homegeneous data analysis procedures across IACHEC calibration and cross-calibration activities
- ➢ Document the best practices in analysing high-energy astronomical data as a reference for the whole scientific community
- ➢ Consolidate and disseminate the experience of operational missions on the optimal calibration sources for each specific calibration goal
- ➢ Consolidate the procedure for multi-mission cross-calibration exercises aiming at true improvements of the cross-calibration status (to be ultimately carried out by IACHEC Working Groups)

# What we have right now
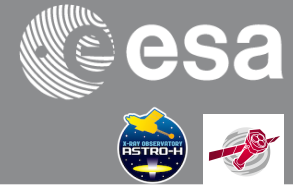
➢ Presentation by J.Derius given at a the special session on "Legacy to future mission" held at the 5th IACHEC meeting (Woods Hole)

- http://web.mit.edu/iachec/meetings/2010/Presentations/Jerius_Iegacy.pdf

➢ Draft charter of the IACHEC "Legacy" Working Group (i.e., a verbose version of this presentation)

- https://wikis.mit.edu/confluence/download/attachments/61572873/WG_Legacy_Charter_v0.3.txt

➢ Procedure on an IACHEC multi-mission cross-calibration procedure

- https://wikis.mit.edu/confluence/download/attachments/61572873/Cross_calibration.txt

➢ A discussion paper on a "Synoptic view of in-flight calibration plans"

- https://wikis.mit.edu/confluence/download/attachments/61572873/IACHEC-LWG-WP-0001_v0.1.pdf

➢ A space on the IACHEC internal Wiki

- https://wikis.mit.edu/confluence/display/iachec/IACHEC+Legacy+Working+Group

# Goals
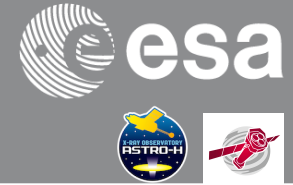
- ➢ Discuss a set of White Papers (WPs), to be endorsed by the whole IACHEC at its 10th meeting (2015) on the following subjects:
  1. Maintenance of ground-based calibration data and procedures
  2. X-ray spectroscopic data analysis and associated statistical methods
  3. Definition of in-flight calibration plans
  4. Procedure to improve the cross-calibration status through a common IACHEC-led exercise
- ➢ Disseminate the endorse WPs within the IACHEC and the astronomical community
- ➢ Whenever relevant, publish these guidelines on refereed journals or, at least, conference proceedings
- ➢ Make sure that the agreed guidelines (see, in particular, Item#2 above) are consistently used across the IACHEC papers and documents

# Timeline

➢ <u>9th IACHEC meeting</u>: start of the WG: charter approval and membership

➢ <u>summer 2014</u>: first teleconference of the WG, attribution of WG tasks and responsibilities, and the election of a Chair

➢ <u>10th IACHEC meeting</u>: presentation of draft WPs

➢ <u>summer 2015</u>: publication of the approved WPs

# An example
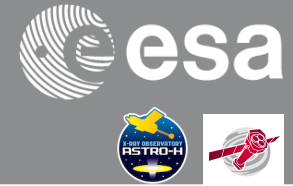
First draft WP (from a document prepared for the *Astro-H Calibration Advisory Board*)

IACHEC Legacy Working Group White Paper

IACHEC-LWG-WP-0001

## A synoptic view of X-ray in-flight calibration plans

Matteo Guainazzi (*Astro-H and XMM-Newton SOC, ESA-ESAC, Villafranca del Castillo, Spain*)

May 8, 2014

## History

| Version | Date | Editor | Note |
|---------|------|--------|------|
| 0.1 | May 8, 2014 | Matteo Guainazzi | First version with complete text |

# Synoptic view of in-flight calibration plans: I.

| Source | LSF | RMF | Area | E/λ scale | Timing |
|---|---|---|---|---|---|
| 1E0102-72.3 | | X | X | X | |
| 3C273 | | X | X | X | |
| Abell1795 | | | X | X | |
| Abell2029 | | | X | | |
| Capella | X | | X | X | |
| CasA | | X | | X | |
| Crab | | X | X | | X |
| Cygnus Loop | | | | X | |
| G21.5-0.9 | | X | X | | |
| H1426+428 | | X | X | | |
| HR1099 | X | | | X | |
| Hz43 | | | X | | |
| Mkn421 | | | | | |
| Perseus Cluster | | X | X | X | |
| PKS2155-304 | | X | X | | |
| Procyon | X | | | X | |
| PSR1509-58 | | | X | | X |
| RXJ1856.6-3754 | | X | X | X | |
| Tycho SNR | | | | X | |
| Vela PWN | | | | X | |
| Zeta Orionis | | X | | | |
| Zeta Puppis | | X | | | |

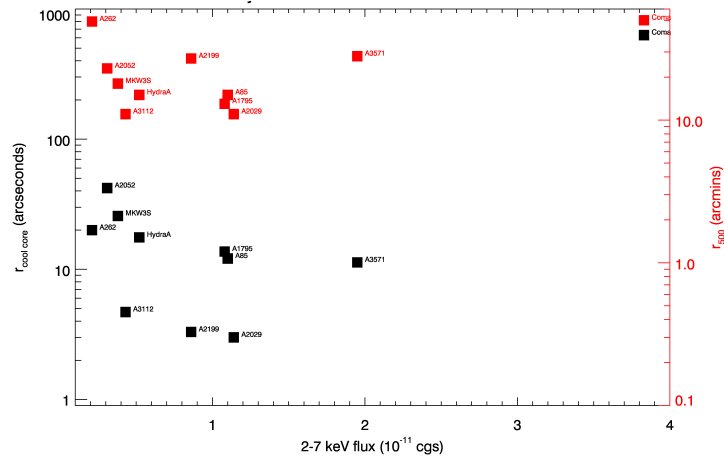# Synoptic view of in-flight calibration plans: II.

High-resolution spectra of LSF calibrators

Thyco (EPIC-MOS)
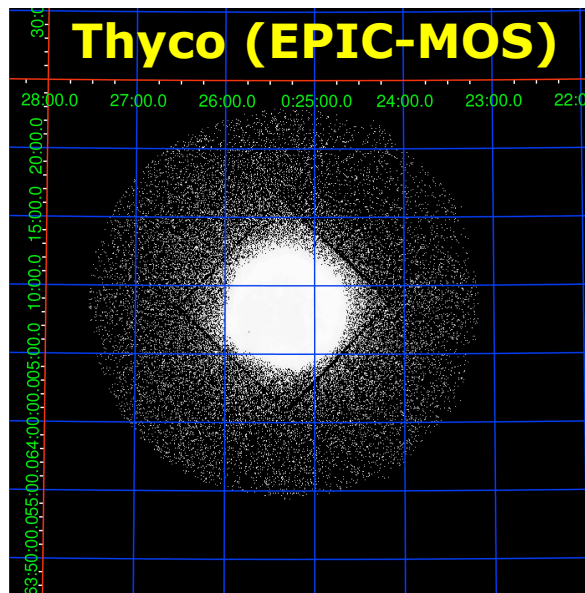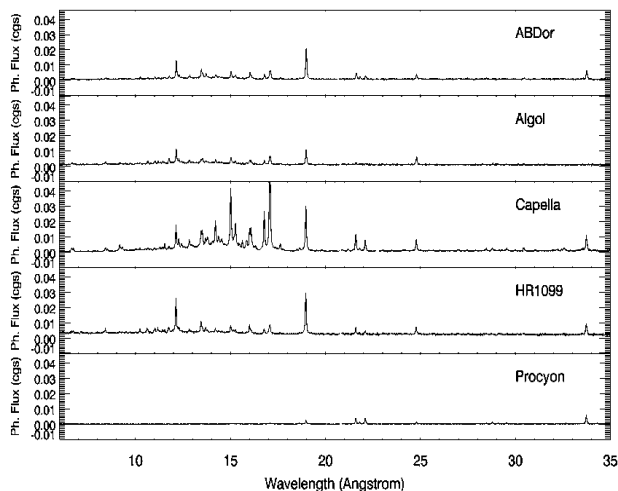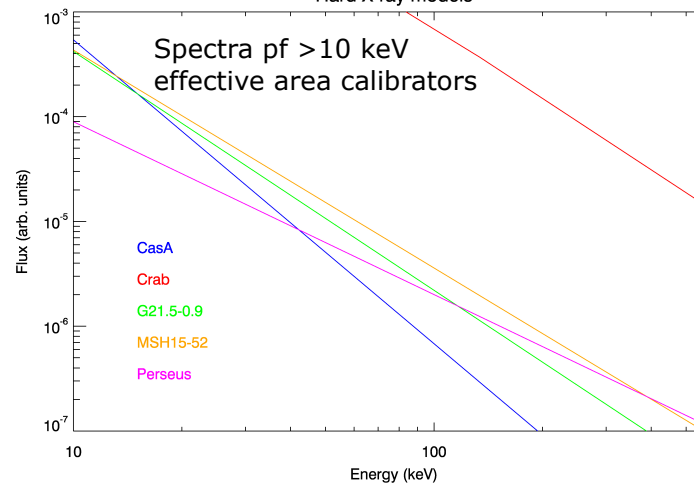
Spectra and images of calibration SNRs
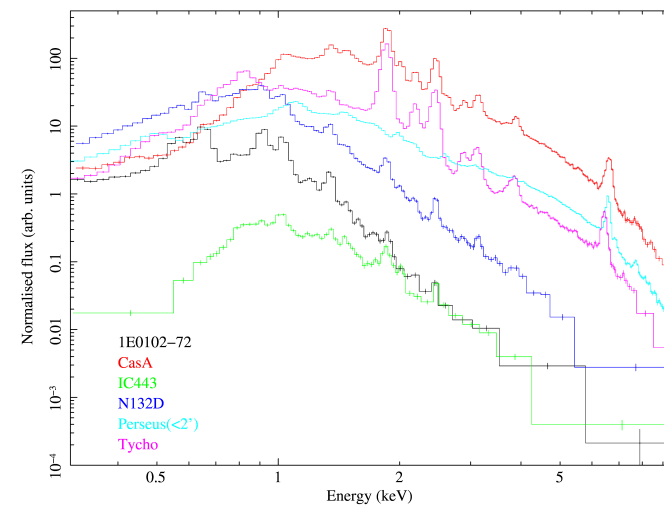
Observational properties of Galaxy Cluster WG sources

Hard X-ray models

Spectra pf >10 keV effective area calibrators

# To be discussed today

1. Scopes

2. Goals

3. Membership

4. Timeline

5. Date of the first teleconference, to define responsibilities