Heritage Working Group
11th IACHEC meeting summary

Scope of the WG

Preserve the IACHEC corpus of knowledge, know-how and best practices for the benefit of future missions and the community at large

- provide a platform for the discussion of experiences coming from operational missions
- facilitate the usage of good practices for the management of pre- and post-flight calibration data and procedures, and the maintenance and propagation of systematic uncertainties (the latter task in strict collaboration with the "Systematic uncertainties" IACHEC Working Group)
- document the best practices in analysing high-energy astronomical data as a reference for the whole scientific community
- ensure the usage of homogeneous data analysis procedures across the IACHEC calibration and cross-calibration activities
- consolidate and disseminate the experience of operational missions on the optimal calibration sources for each specific calibration goal

from the WG charter …

Activities during the last year, agreements for the future

1. JATIS (SPIE) paper on the in-flight calibration plans accepted

2. work to prepare a IACHEC source database (data, analysis procedures, literature) to be started soon (AHEAD funding)

3. community expert's survey to define an IACHEC set of "best-practices" on: a) photoelectric absorption models and associated cross-sections; b) elemental abundance tables now completed
   - White Paper on the results to be circulated to the IACHEC mailing list, with the proposal to assume these recommendations as data analysis standard for IACHEC papers
   - Evaluation of the impact that different prescriptions may have on cross-calibration results in the 3C273/PKS2155-304 paper

4. repository of calibration documents on the WG Wiki includes now Chandra, INTEGRAL, NuSTAR, XMM-Newton

5. launch a survey to build a "IACHEC knowledge database" (instrument and scientific/source expertise)

6. contact Editor Boards of scientific journals to offer technical advise in the paper referee's process

Journal of
Astronomical Telescopes, Instruments, and Systems

AstronomicalTelescopes.SPIEDigitalLibrary.org

On the in-flight calibration plans of modern x-ray observatories

Matteo Guainazzi
Laurence David
Catherine E. Grant
Eric Miller
Lorenzo Natalucci
Jukka Nevalainen
Robert Petre
Marc Audard

JATIS, 1(4), 047001

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multiple choices possible

Search page

- Source:
- Source type:
- Instrument:
- Calibration goal:

Source: 1E0102-72, 3C273, Abell1795, Andromeda, …

Source type: Galaxy clusters, X-ray Binaries, AGN, Active stars, …

Instrument: ACIS, EPIC-MOS, IBIS, XIS, …

Calibration goal: Energy scale, Redistribution, LSF, Timing, …

Results page

3C273 | PKS2155 | Mkn421 | Mkn509

spectra and responses

link to best-fit plot on individual instrument

link to papers

```
spectra/acis/3C273_20060915_acis.pi
spectra/acis/3C273_20060915_acis.rmf
spectra/acis/3C273_20060915_acis.xcm
spectra/acis/plots/3C273_20060915_acis.ps
spectra/epic/3C273_20010906_pn.pi
...
papers/iachec/Smith_ApJ_802_546.pdf
papers/science/Page_MNRAS_749.34.pdf
...
models/iachec.mdl
models/Page_MNRAS_749_34.mdl
models/3C273_summaryModelTable.txt
```

→ XSPEC model files

XSPEC model files and plots of multi-instrument campaigns

```
xcal/fit_3C273_ACISEPICXIS_2002.xcm
xcal/3C273_ACISEPICXIS_2002.ps
```

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2. Community survey - current status

Item	Photoelectric absorption model	Photoelectric absorpion cross-sections	Elemental aundances
	`tbnew` (XSPEC) `hot+amol` (SPEX)	Verner & Yakovlev (1995)	Lodders & Palme (2009)

*this is not `lodd` in XSPEC!

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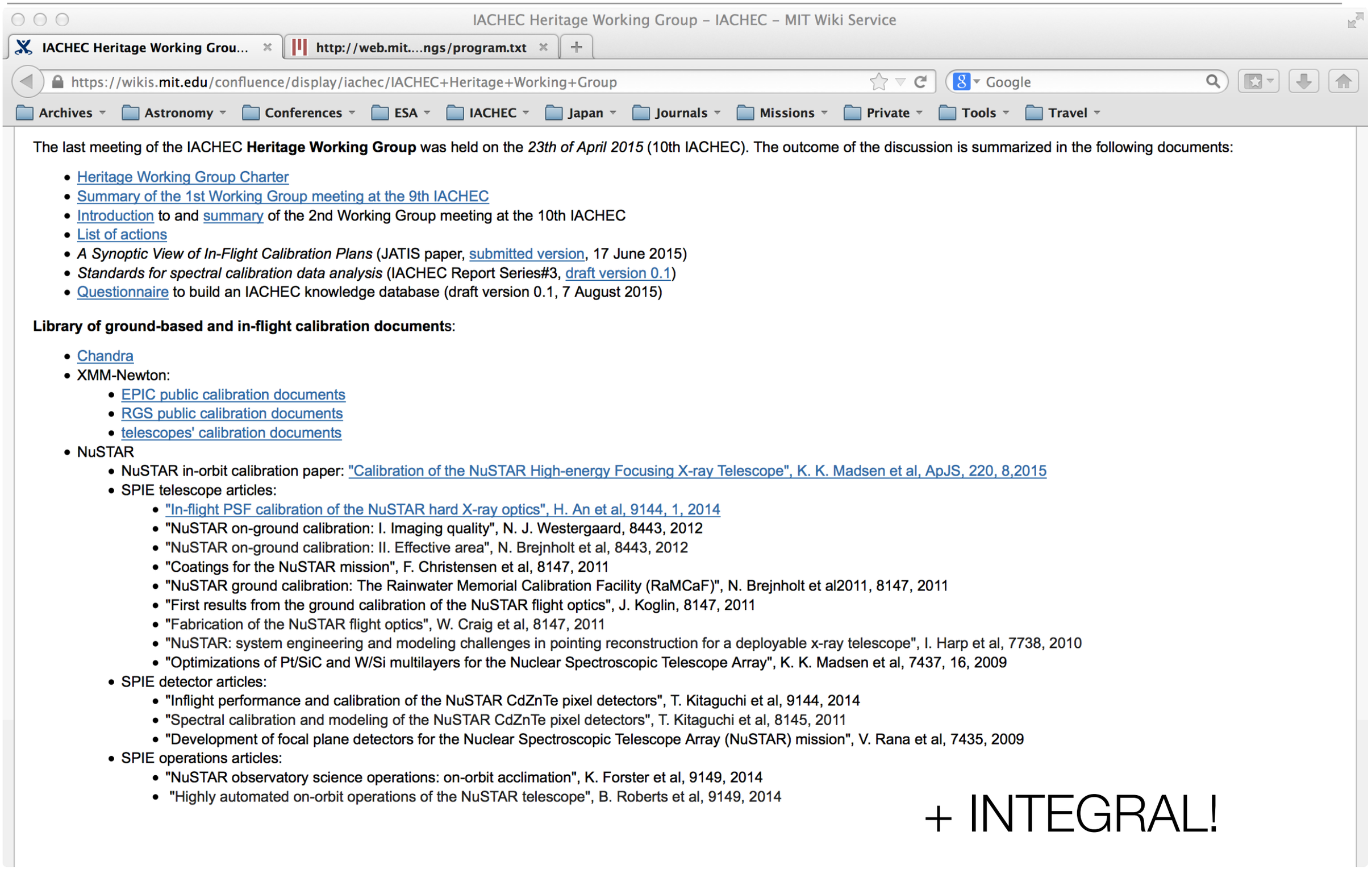
3. Repository of calibration documents



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