

Status of CGBM

- data flow & software -

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CGBM wiki

Please visit

<http://cgbm.wikidot.com/>

Please find the invitation e-mail from Taka Sakamoto.

If not, please make contact with him at
tsakamoto(at)phys.aoyama.ac.jp

softwares

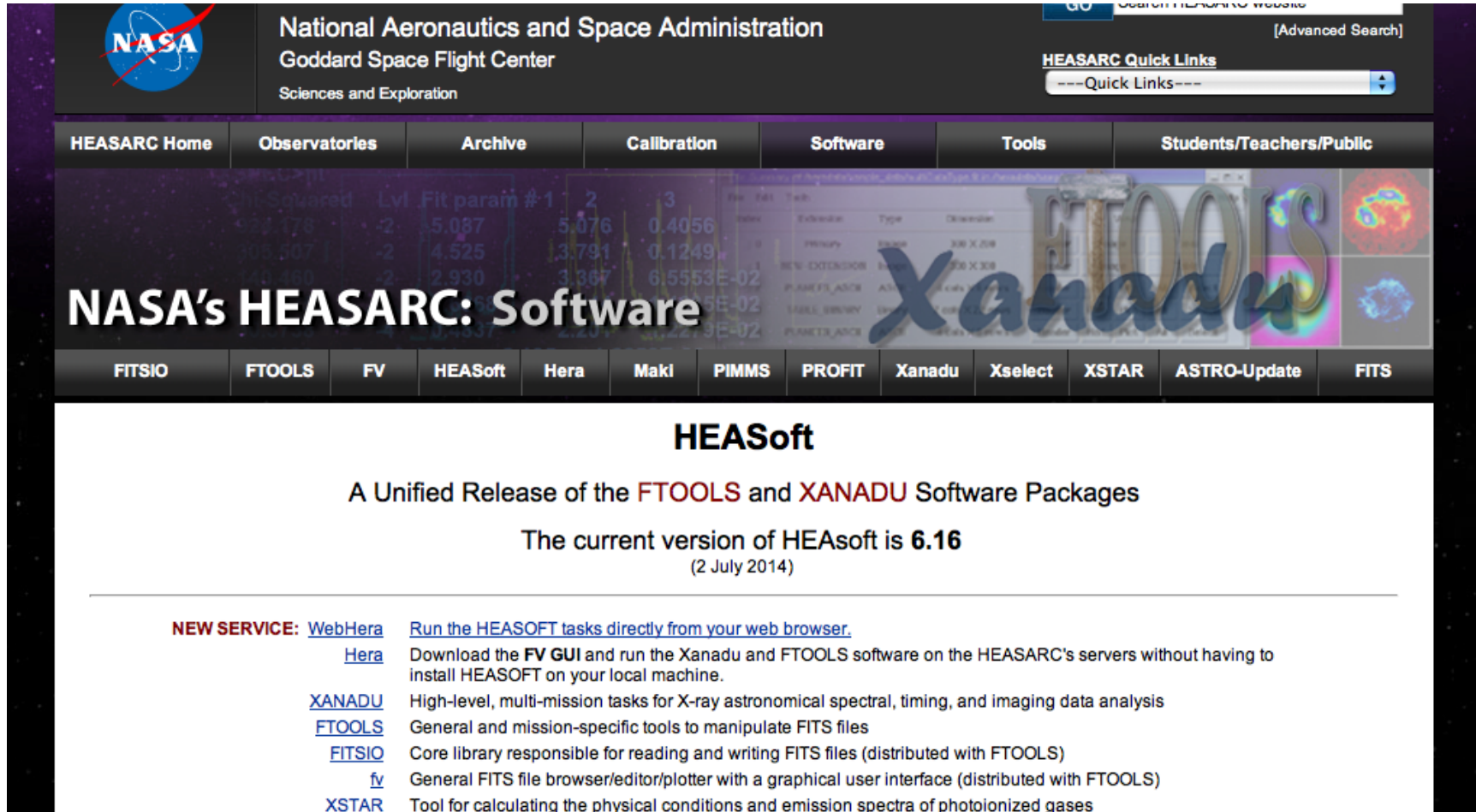
All the dedicated softwares implemented in
C++ and Python (w/ astropy library)

Analysis s/w are based on the standard HEASoft by
HEASARC GSFC/NASA: i.e., FTOOLS, XANADU, ...
etc



HEASoft

<http://heasarc.nasa.gov/lheasoft/>



The screenshot shows the HEASARC website interface. At the top left is the NASA logo. The main header includes "National Aeronautics and Space Administration" and "Goddard Space Flight Center". A search bar is visible on the right. Below the header is a navigation menu with links for "HEASARC Home", "Observatories", "Archive", "Calibration", "Software", "Tools", and "Students/Teachers/Public". The main content area features a large banner for "NASA's HEASARC: Software" with a background image of a data table and the word "Xanadu" in a stylized font. Below the banner is a row of software package links: FITSIO, FTOOLS, FV, HEASoft, Hera, Maki, PIMMS, PROFIT, Xanadu, Xselect, XSTAR, ASTRO-Update, and FITS. The "HEASoft" link is highlighted. Below this row, the text reads "HEASoft" followed by "A Unified Release of the FTOOLS and XANADU Software Packages" and "The current version of HEASoft is 6.16 (2 July 2014)". A "NEW SERVICE" section lists links for WebHera, Hera, XANADU, FTOOLS, FITSIO, fv, and XSTAR, each with a brief description of its function.

NASA's HEASARC: Software

[FITSIO](#) [FTOOLS](#) [FV](#) [HEASoft](#) [Hera](#) [Maki](#) [PIMMS](#) [PROFIT](#) [Xanadu](#) [Xselect](#) [XSTAR](#) [ASTRO-Update](#) [FITS](#)

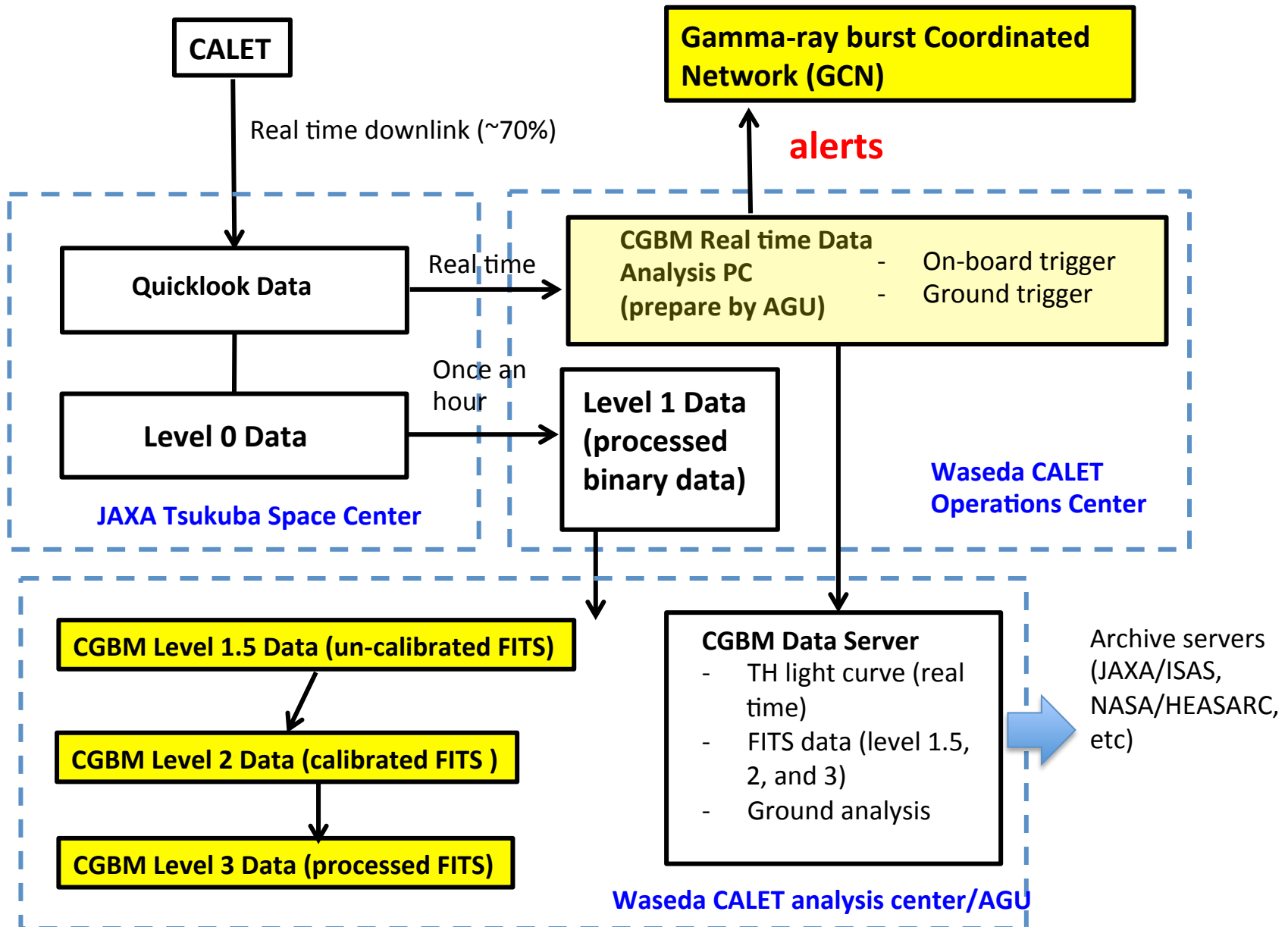
HEASoft

A Unified Release of the **FTOOLS** and **XANADU** Software Packages

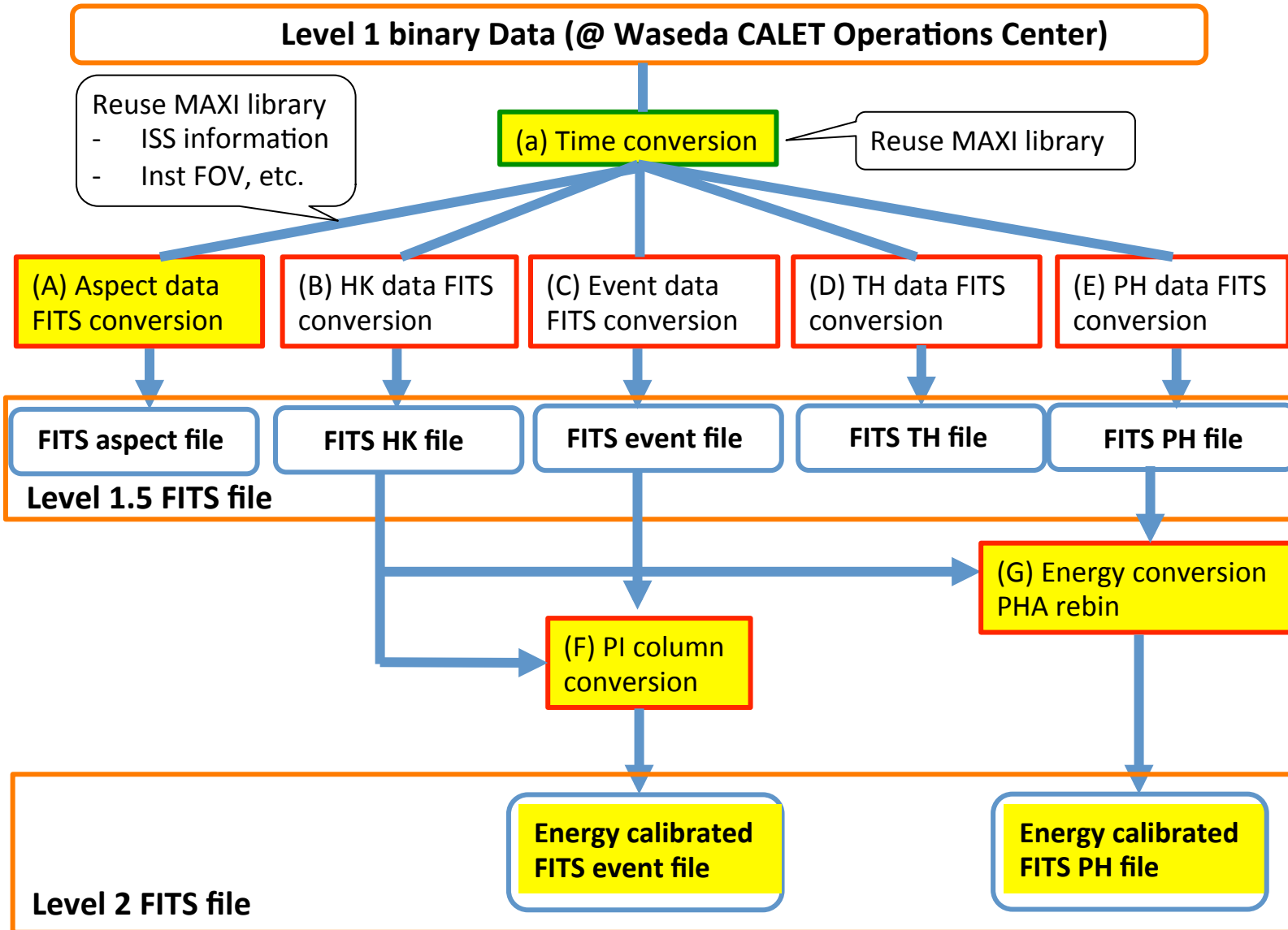
The current version of HEASoft is **6.16**
(2 July 2014)

NEW SERVICE: [WebHera](#) Run the HEASOFT tasks directly from your web browser.
[Hera](#) Download the **FV GUI** and run the Xanadu and FTOOLS software on the HEASARC's servers without having to install HEASOFT on your local machine.
[XANADU](#) High-level, multi-mission tasks for X-ray astronomical spectral, timing, and imaging data analysis
[FTOOLS](#) General and mission-specific tools to manipulate FITS files
[FITSIO](#) Core library responsible for reading and writing FITS files (distributed with FTOOLS)
[fv](#) General FITS file browser/editor/plotter with a graphical user interface (distributed with FTOOLS)
[XSTAR](#) Tool for calculating the physical conditions and emission spectra of photoionized gases

Overall data flow



Level 1.5 & 2 data



Level 1.5 & 2 data

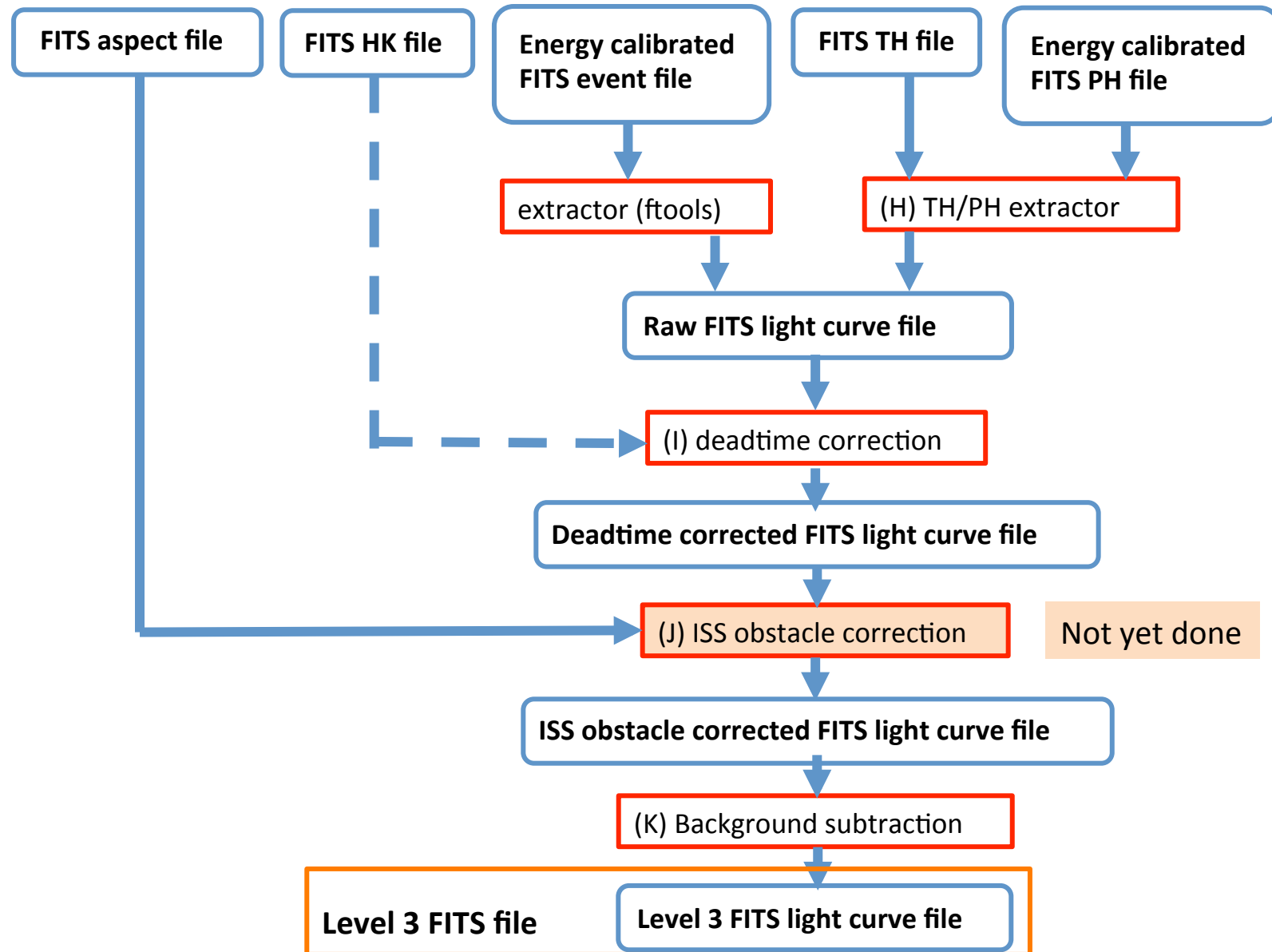
- The level 1 data are converted into the FITS format => level 1.5 (uncalibrated)
- Energy correction apply => level 2 (in Waseda)
Using **CALibration Data Base** (CALDB)
 - > conversion into **PI (Pulse-height Invariant)** form (event data)
 - > Energy conversion & re-binning (PH data)
- **Level 1.5 -> 2 processed automatically (needs no human effort)**

- Time conversion (not implemented)
 - Two ideas in discussions
 - 1) Mission Elapsed Time (MET) filled in the level 1.5
 - 2) Application (e.g., *calet-time*) delivers time conversions among *UTC, MET, MJD, GPStime, MDctime, ... etc*
- Aspect data FITS conversion (not implemented)
 - Should be consistent with *Time conversion*.
(filling *MET* or not)

Level 3 data (processed FITS)

- Level 3 are data processed by a human
 - needs human judgements for selection of data (e.g., signal / background region etc...)
 - processed in Waseda (data analysis center?)
or AGU
 - Not decided

Level 3: background subtracted light curve



Level 3: making spectra

