

RHESSI Software Status

27 July 2016
Graz/2002-2016
15TH Year!

Overview

- 15th Year – 106,000 Flare Events (Imaged)
- Software stable but still Dynamic
- Further Integration of Ancillary Data
- Imaging improvements anticipated
- OSPEX improvements – data, functions
- Improved data products

15th Year – >106,700 Flare Events (Imaged)

- Over 8.45 TB of RHESSI Level 0 and QL products
- Official IDL version 6.4 (works thru 8.4)
- AIA flare cutout archive 5.7 TB FITS for 12,742 RHESSI flares
- GOES archive (more than XRS) 15GB
- Fermi GBM & LAT 232 GB (spec and time)
- MESSENGER thru 2014
- SOXS
- Adding CONUS-WIND (NEW)

Improvements

- New ancillary data OSPEX, GOES, Browser
- EUV irradiance at 10 sec cadence
- Flare Finder tool in Browser (Milligan) and SSW
- More RHESSI diagnostics in Browser
- Additions to and improvements in Show_Synop including more coronagraph. TRACE can now be decompressed in Windows.

Issues

- Datagap (dropout) detection to be enhanced
- CSA method not 100% effective
- Gap extensions and pre-extensions
- Livetime implementation fails <512 microsec
- Fixes for both being tested
- You have the power to set the Priors – defaults were set by Gordon Hurford in 2002 – not by Charleton Heston in 2002 BCE

Future improvements

- Wind-style spectrograms in Browser - soon
- One minute spectra in Browser – not just flares - soon
- Clean Multiscale – Vis (ModPat)
- Detector status database via monitor rate integrations (hourly) – goal is to automate detector choice
- Work continues on PMTRAS database
- ANNSEC to be augmented by Cartesian maps
- Faster Pixon, Faster Everything – basic profiling and bproj will improve 10-fold
- Visibilities are Photon Calib-Eventlists! Vis Pixon!

Suggestions, comments, complaints are welcome.

- Andre Csillaghy – objects and organization (Tolbert, Schwartz)
- Martin Fivian – aspect
- Gordon Hurford – imaging, visibilities, PMTRAS (Schwartz)
- Sam Krucker – Clean (Schwartz)
- Jim McTiernan – quick look, simulations, databases
- Tom Metcalf – PIXON – deceased (Schwartz)
- Ed Schmahl – imaging and visibilities – Retired
- Anna Massone – Electron flux imaging with visibilities
- Richard Schwartz – overall implementation, spectroscopy
- David Smith – spectral response
- Kim Tolbert – GUI and user interfacing, Ancillary Data