

## Eventlist files

- An eventlist file contains a list of time tagged events in a format that does not require unpacking,
  - Contrast to reading data from the Level-0 data files.
- From where comes the speed up?
  - Eventlist stored in the same streaming format that we use in the spectrogram process.
  - Events relevant for a specific analysis can be selected in advance and all others can be excluded.
    - Reduction of the number of photons that the software has to read for the analysis.
- Substantial time savings when you make repeated accumulations from the same time and energy range.

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## Eventlist Example

Consider the gamma ray line flare  
on 17 June 2003, 22:56:20 UT to 22:58:00 UT

- 2 eventlist files:
  - first includes all possible photon energies
  - second includes the range from 400 keV to 2.5 MeV.
- Spectrum accumulation:
  - 13.7 seconds using the restricted energy range eventlist file,
  - 30.1 seconds using the unrestricted eventlist file,
  - 57 seconds using the Level 0 files.

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## How does it work?

- Create the file using personal selection criteria
  - energy range
  - time range
  - detectors
- Call the write method
- Use the eventlist file in the hsi\_image, hsi\_lightcurve or hsi\_spectrum objects
- `hessi.ssl.berkeley.edu/~csillag/rhessi/dasw/eventlist_script.pro`

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