

Is there a command line interface to the astro server?

Pass7 (updated 10/25/2011)

Please see this page for details of the Pass7 public data release and SLAC Astroserver contents, including event samples and event class selection: <https://confluence.slac.stanford.edu/display/SCIGRPS/Official+LAT+Datasets>

The astroserver command has evolved a bit. An example for requesting Pass7 photon (FT1) data:

```
/u/gl/glast/astroserver/prod/astro --output-ft1 ft1.fits --event-sample P7.6_P120_BASE --ra 278.833 --dec -32.9289 --radius 10.0 --minTimestamp 339897600 --maxTimestamp 340502400 --minEnergy 100.0 --maxEnergy 300000.0 --event-class-name 'Source' --excludeMaxTimestamp --quiet --brief store
```

and an example of requesting spacecraft (FT2) data:

```
/u/gl/glast/astroserver/prod/astro --output-ft2-30s ft2.fits --event-sample P7.6_P120_BASE --minTimestamp 339897600 --maxTimestamp 340502400 --excludeMaxTimestamp --quiet --brief storeft2
```

Note that one can also get online help from the astro command, e.g. ".../astro --help".

```
$ /u/gl/glast/astroserver/prod/astro --help
```

The astroserver has two modes of operation.

(1) To display help or version information:

```
usage: astro [-h] [-i] [-v]
-h,--help      Show this help screen and exit
-i,--info      Display list of available event-samples and exit
-v,--version    Show version information and exit
```

(2) To count/extract photons, or extract spacecraft files:

```
usage: astro < bounds | count | store | storeft2 > [-b] [-dec <angle>]
      [--event-class <event class list>] [--event-class-name <event class list>]
      [--event-sample <sample name>] [--excludeMaxTimestamp]
      [--excludeMinTimestamp] [--maxEnergy <energy>] [--maxTimestamp <time>]
      [--maxZenith <angle>] [--minEnergy <energy>] [--minTimestamp <time>]
      [--minZenith <angle>] [--output-event-list <file path>] [--output-ft1 <file
      path>] [--output-ft1-max-bytes-per-file <number of bytes>]
      [--output-ft1-max-events-per-file <number of events>] [--output-ft2-1s
      <file path>] [--output-ft2-1s-max-bytes-per-file <number of bytes>]
      [--output-ft2-1s-max-rows-per-file <number of rows>] [--output-ft2-30s
      <file path>] [--output-ft2-30s-max-bytes-per-file <number of bytes>]
      [--output-ft2-30s-max-rows-per-file <number of rows>] [--output-ls1 <file
      path>] [--output-ls1-max-bytes-per-file <number of bytes>]
      [--output-ls1-max-events-per-file <number of events>] [-q] [-ra <angle>]
      [-radius <angle>]
-b,--brief      Turn off
                output message times and debug info
-dec <angle>    Declination
                coordinate at center of search-cone (Degrees:
[-90,90])
--event-class <event class list> [Deprecated as
instead] List of event classes, separated by commas. Intervals may be
specified by two event-classes separated by a colon. (ie: '1,3:6,8'
== '1,3,4,5,6,8')
```

preceded or followed by a

--event-class-name <event class list>

see a list of available

--event-sample <sample name>

-excludeMaxTimestamp

maxTimestamp

-excludeMinTimestamp

minTimestamp

-maxEnergy <energy>

-maxTimestamp <time>

-maxZenith <angle>

-minEnergy <energy>

-minTimestamp <time>

-minZenith <angle>

--output-event-list <file path>

--output-ft1 <file path>

--output-ft1-max-bytes-per-file <number of bytes>

output files.)

output-splitting

--output-ft1-max-events-per-file <number of events>

splitting output files.) By

--output-ft2-1s <file path>

--output-ft2-1s-max-bytes-per-file <number of bytes>

(before splitting output

will disable

--output-ft2-1s-max-rows-per-file <number of rows>

splitting output

not on rows.

--output-ft2-30s <file path>

--output-ft2-30s-max-bytes-per-file <number of bytes>

(before splitting output

will disable

--output-ft2-30s-max-rows-per-file <number of rows>

(before splitting output

not on rows.

--output-ls1 <file path>

--output-ls1-max-bytes-per-file <number of bytes>

output files.)

One-sided intervals may be specified by a number

colon. (ie: '2:' == '>=2', ':2' == '<=2')

Name of event

class for selection. Use the '--info' command to

event classes for each sample

REQUIRED: Name

of event sample to search

If option

specified, use < rather than <= when comparing to

If option

specified, use > rather than >= when comparing to

Maximum photon

energy (MeV)

Maximum

Timestamp (MET-seconds, fractional seconds accepted)

Maximum zenith

angle (degrees)

Minimum photon

energy (MeV)

Minimum

Timestamp (MET-seconds, fractional seconds accepted)

Minimum zenith

angle (degrees)

run/event-list

Output (text) file

FT1 output

(fits) file

Maximum number

of bytes written to each FT1 file (before splitting

Default is 4GB. A value of '0' (zero) will disable

Maximum number

of events written to each FT1 file (before

default, output is split on byte-size, not on rows.

1 second FT2

output (fits) file

Maximum number

of bytes written to each one-second FT2 file

files.) Default is 4GB. A value of '0' (zero)

output-splitting

Maximum number

of rows written to each one-second FT2 file (before

files.) By default, output is split on byte-size,

30 second FT2

Output (fits) File

Maximum number

of bytes written to each thirty-second FT2 file

files.) Default is 4GB. A value of '0' (zero)

output-splitting

Maximum number

of rows written to each thirty-second FT2 file

files.) By default, output is split on byte-size,

LS1 Output

File (fits)

Maximum number

of bytes written to each LS1 file (before splitting

output-splitting	Default is 4GB. A value of '0' (zero) will disable
--output-ls1-max-events-per-file <number of events>	Maximum number
splitting output files.) By	of events written to each LS1 file (before
-q,--quiet	default, output is split on byte-size, not on rows.
-ra <angle>	Show only
(Degrees: [0,360])	warnings and errors
-radius <angle>	Right-ascension coordinate at center of search-cone
	Radius of
	search-cone (Degrees)

Pass6



This FAQ has been updated for the new (post-8/13/09) astro server.
For the OLD astro server command line (pre-8/13/09) see: [Old Astro Server Command Line Interface](#)

Yes, although the commands were mainly designed to be used by programs rather than end users, so they are not very user friendly

```
~glast/astroserver/prod/astro --event-sample <name> --output-ft1 <ft1-file> --output-ls1 <ls1-file>
[ft1Selection] store
```

You can specify ft1 and ls1 output files and have both generated in a single request.

```
~glast/astroserver/prod/astro --event-sample <name> --output-ft2-30s <30s-ft2-file> --output-ft2-ls <ls-ft2-
file> [ft2Selection] storeft2
```

You can specify ft2-30s and ft2-ls output files and have both generated in a single request.

A command, 'store' or 'storeft2' is required.

The event-sample is required, and specifies which event sample to search. There are currently 2 event samples to choose from:

Event Sample Name	Description	Event Classes
P6_public_v1	First public data release, ongoing	1, 2, 3
P6_v1_survey_evtClass	LEO -> Aug 13, 2009	1, 2, 3

(See [LAT Dataset Definitions](#) for more information about these event samples).

ft1Selection can contain (all optional):

```
--minTimestamp <value MET>
--maxTimestamp <value MET>
--minEnergy <value MeV>
--maxEnergy <value MeV>
--ra <value degrees>
--dec <value degrees>
--radius <value degrees>
--eventClass <event class filter> (ex: "EVENT_CLASS = 3" or "EVENT_CLASS >= 2") see "Notes" section for more
information
```

and ft2Selection can contain (all optional):

```
--minTimestamp <value MET>
--maxTimestamp <value MET>
```

Example

```
~glast/astroserver/prod/astro \  
  --output-ft1 /tmp/out.fits \  
  --event-sample P6_public_v1 \  
  --minEnergy 100.0 --maxEnergy 200000.0 \  
  --minTimestamp 2.39557414E8 --ra 128.83607 --dec -45.17644 --radius 10.0 --eventClass "EVENT_CLASS = 3"  
store
```

Notes

1. Very large queries (for example, 1 second ft2 query for the entire mission) may run out of memory while building the output file. At the moment the only solution is to break the query into smaller time ranges.
2. The <event class filter> must be a valid SQL expression using only the identifier "EVENT_CLASS", numeric constants, and the operators listed below. Operators (c) and (d) may not be as performant as combinations of operators in (a) and (b).
 - a. =, >, <, >=, <=, !=
 - b. AND, OR, NOT
 - c. IN (value1, value2, ..., valueN)
 - d. BETWEEN value1 AND value2