Sky Model in Gleam

New tag of GlastRelease (v7r3p4) generated over the weekend.

checkout3 source definitions are now contained in the DataChallenge package

Test a few of them using a modified full_source_simulation.txt file from the DataChallenge package.
    - Set trigger mask = 0 (so the merit file contains all events incident on the 6m^2
      area.
    - Choose simulation time appropriate for the source properties we wish to study.

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A comment on time

The output from the DC2 orbit simulator has time relative to the start time
of the simulation. Gleam needs to know the absolute time to calculate things like Lon/Lat
correctly.

Absolute time is defined as seconds past 1/1/2001 (MET)

In the JO file the orbit file is read in with:

FluxAlg.PointingHistory={"$(DATACHALLENGEROOT)/data/Gleam_survey.txt", "2008-1-1 00:00:00"};

Where the second parameter specifies the reference start time in the orbit file.

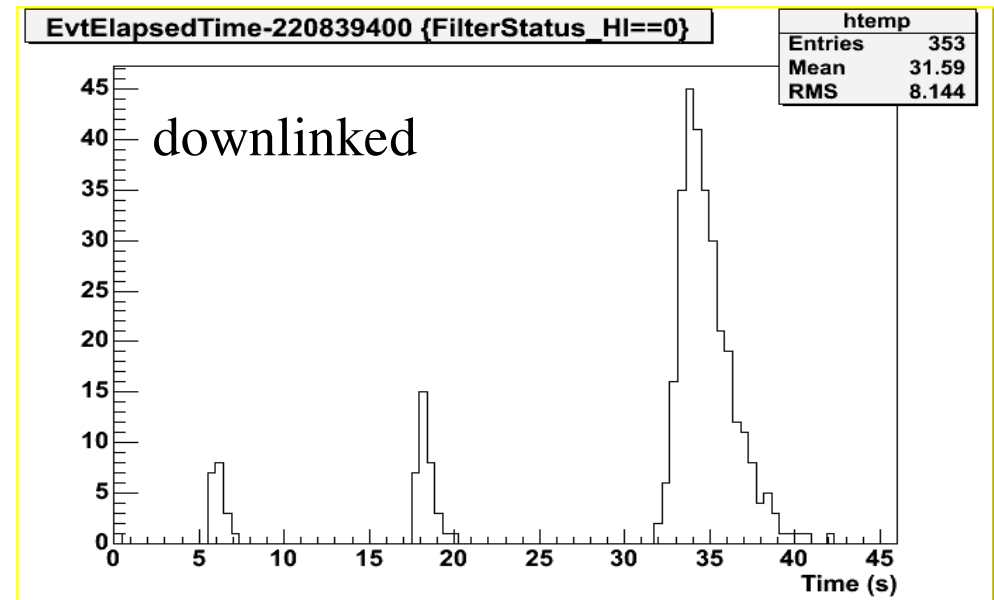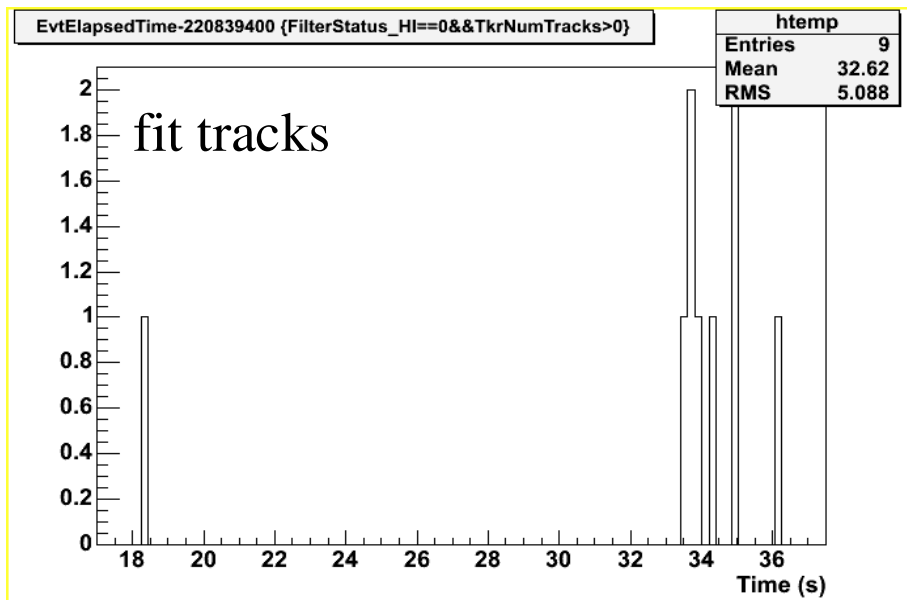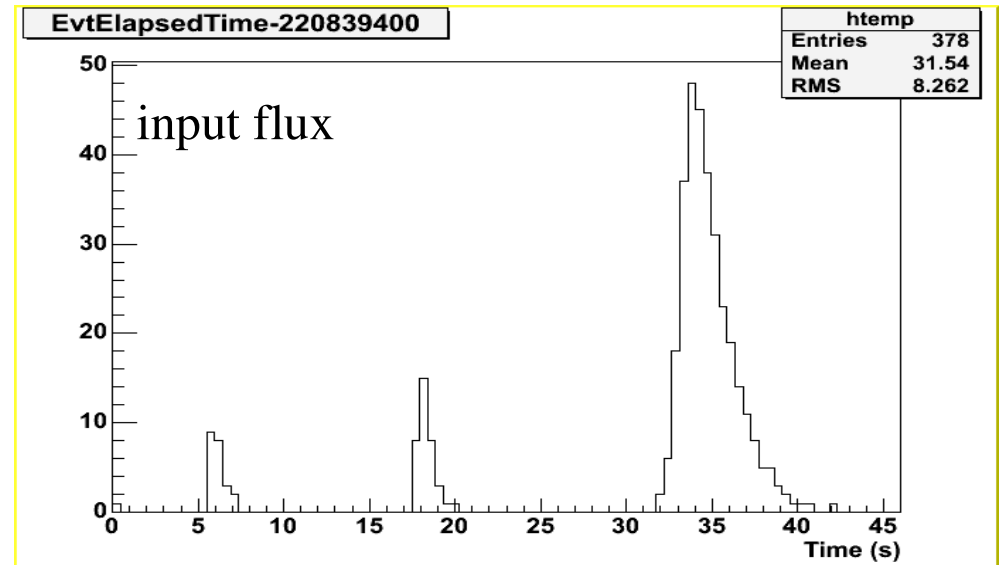The start time of the Gleam simulation is specified with:
FluxSvc.StartTime = 1000;
FluxSvc.StartDate = "2008-1-1 00:00:00";
Inside Gleam, these are combined to make MET. If StartDate is not specified then
StartTime is in MET.

Absolute times in source definitions (time of AGN flare or GRB) are specified in the
same way as StartTime. i.e. they are relative to the StartDate if that has been specified or
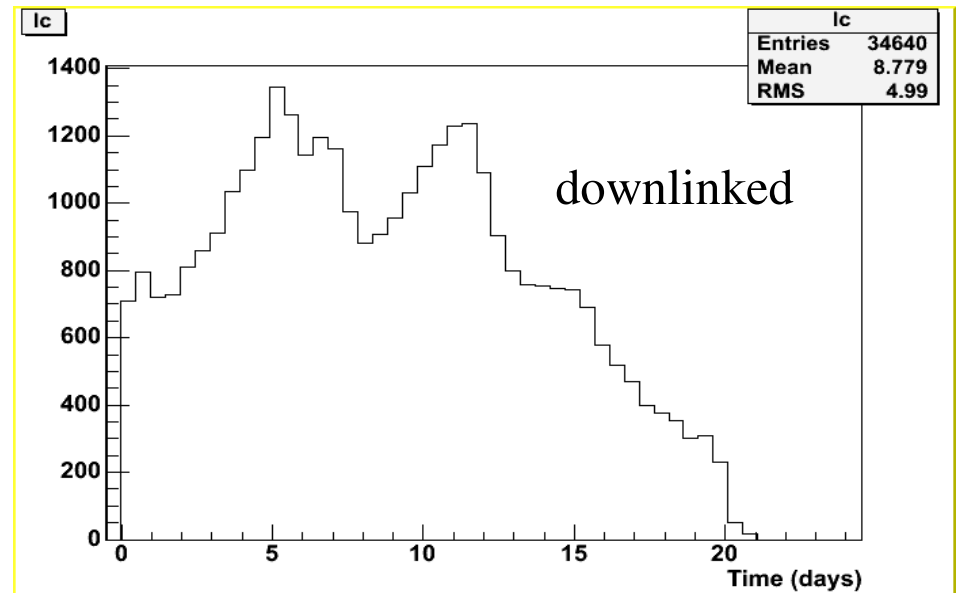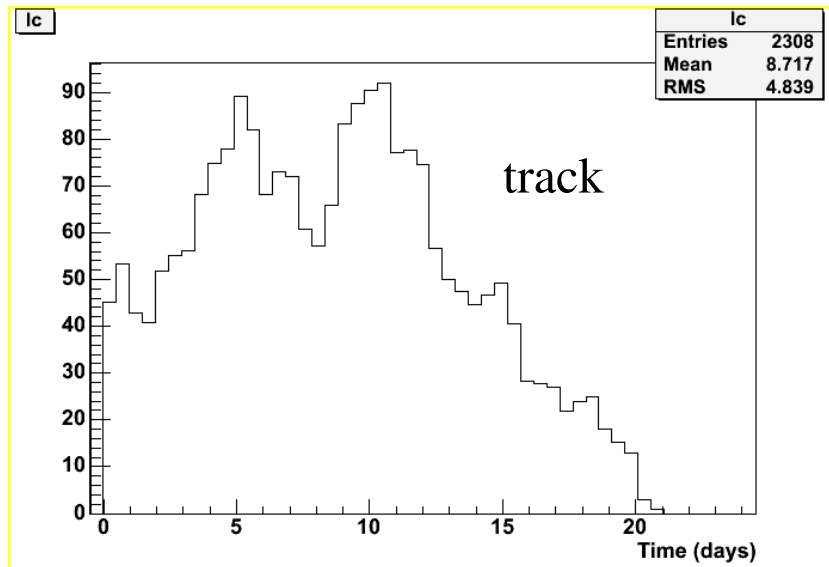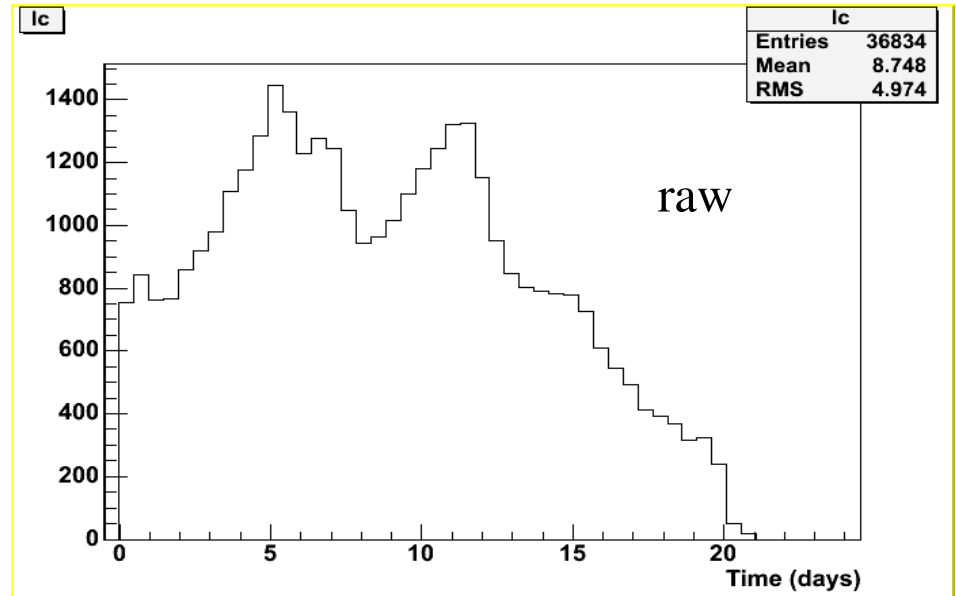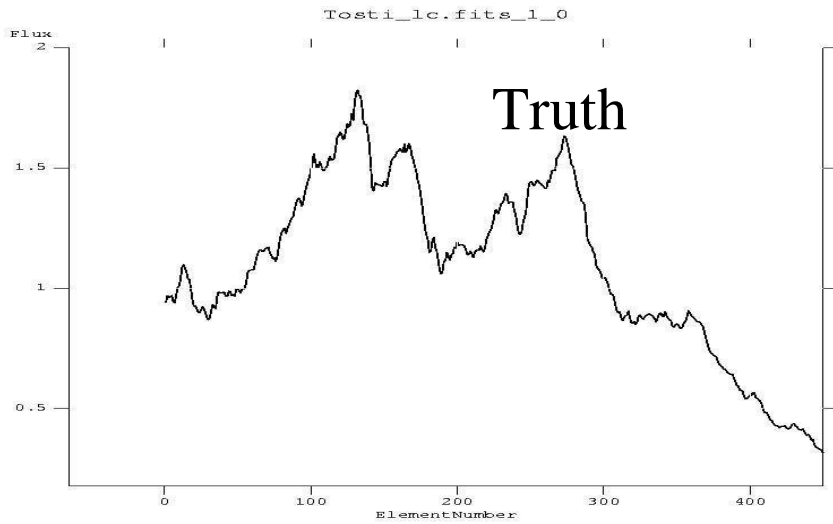are in MET otherwise.

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GRBs

- 2000 s simulation starting at 970s, this "catches" GRB_00000 which starts at 1000s.
- I found that I had to use the GRBobs xml file from the GRBobs package and not the DataChallenge package.

input flux

fit tracks

downlinked

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Variable AGN

A 20 day simulation of J0118p0248
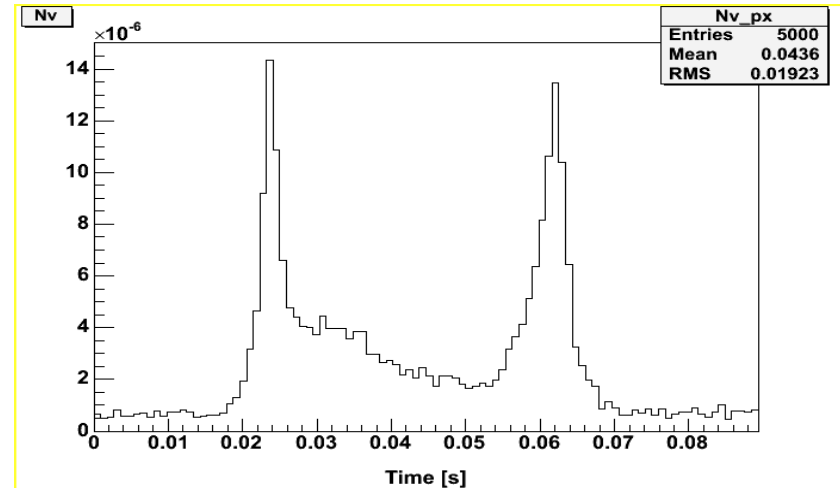

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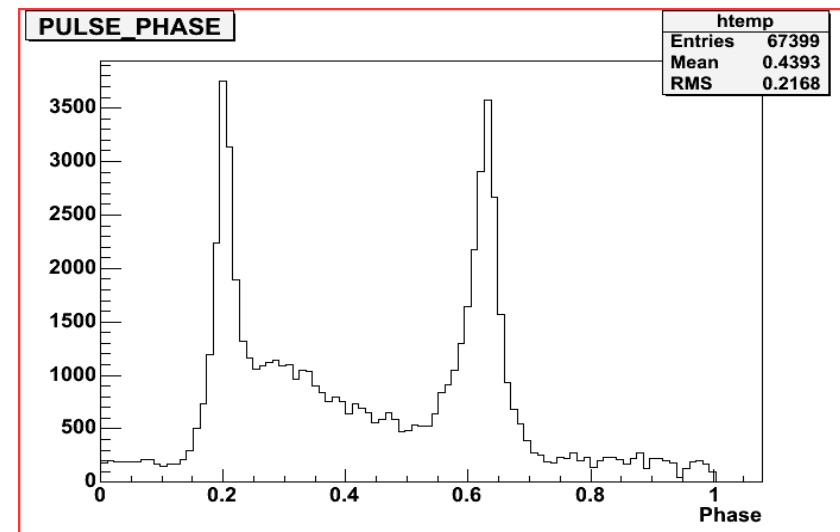
Pulsars

Two day simulation of Vela.
Rewrote makeFT1 and makeFT2 to generate the fits formatted photon and spacecraft files.
Used the sciencetools to barycenter and to calculate the phase.

Lightcurve used as input to the simulation

Phase obtained by analysis of the simulated data.

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Summary

There appear to be no major problems. However there are still many things to check.

The variable AGN and GRB come out correctly, which suggest that we are handling time correctly and consistently throughout the simulation chain.

We can correctly reconstruct the pulsar lightcurves. This means that we are both simulating the pulsars correctly and that we are making the fits photon and spacecraft files correctly.