

IRFs – four panel plots

Jim Chiang has created a new set of IRFs (DC1A) based on GlastRelease v4r2, these combine the smoothness of the “test” IRFs with the PSF parameterisation proposed by Toby (and Jean?).

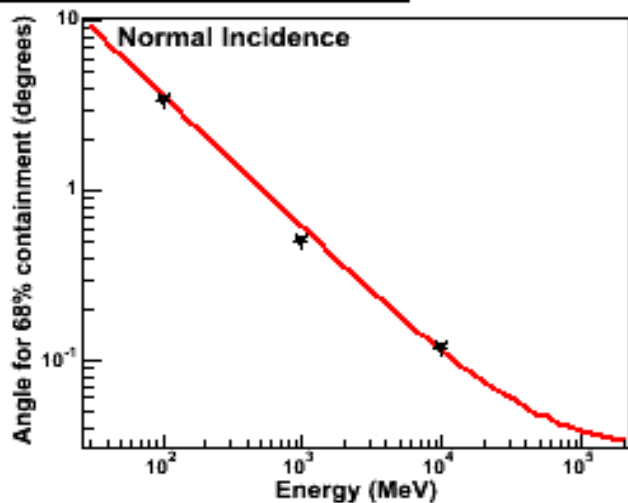
The IrfLoader class has lots of useful methods for accessing and manipulating the response functions. The rootIrfLoader class makes these available from within a root macro (both written by Jim).

- This makes it fairly straightforward to write a macro to explore the IRFs, it is easy to generate the “4-panel” plot without needing to know the details of how the IRFs are parameterised.

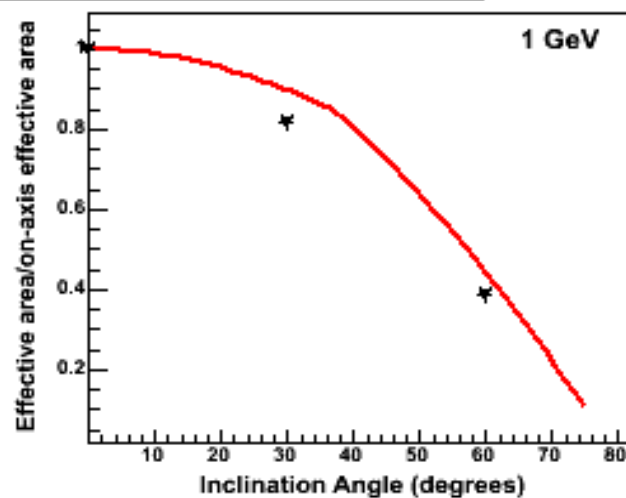
DC1A response functions

The black stars are derived directly from v4r2 simulations (from the systest runs)

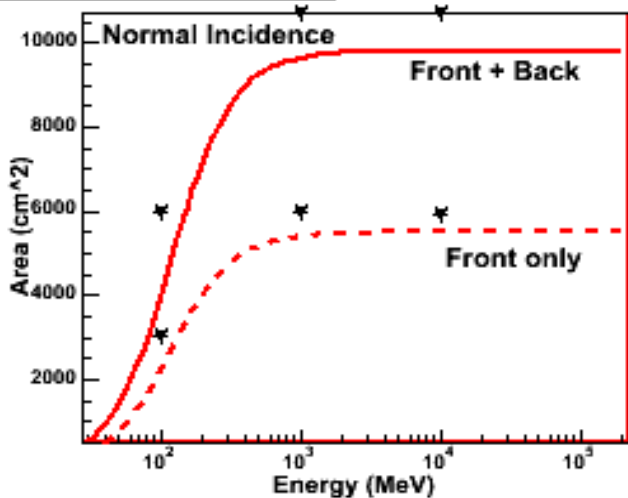
Angular Resolution vs. Energy



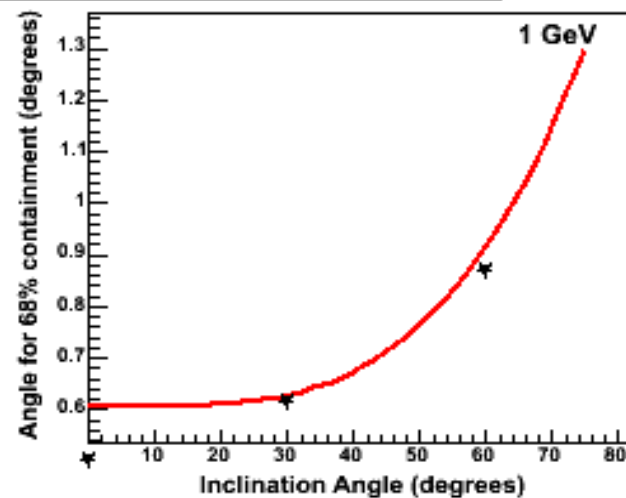
Relative Area vs. Angle of Incidence



Effective Area vs. Energy



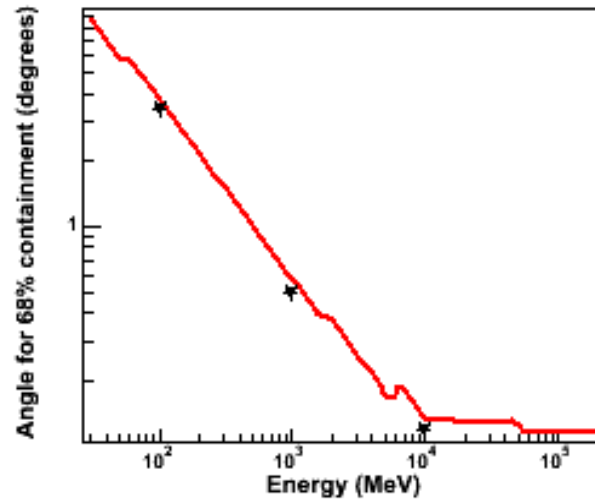
Angular Resolution vs. Angle of incidence



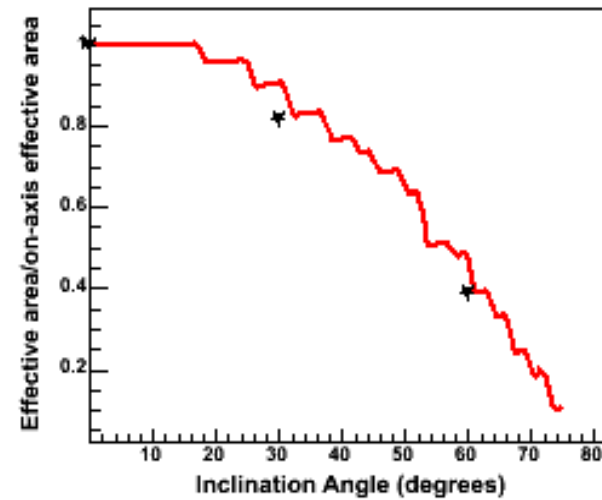
DC1 IRFs

These are the IRFs generated for the DC1 kickoff.

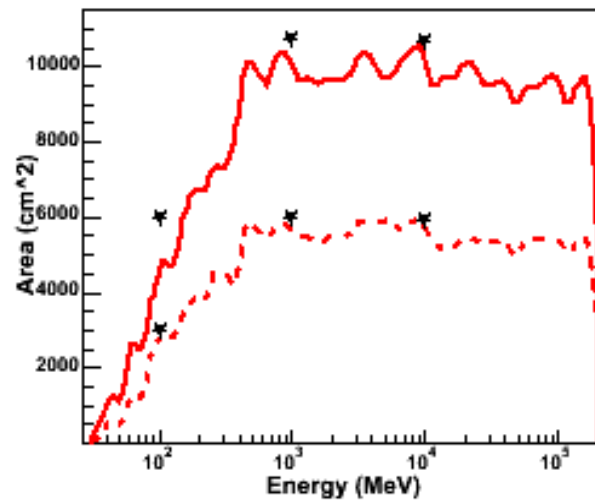
Angular Resolution vs. Energy



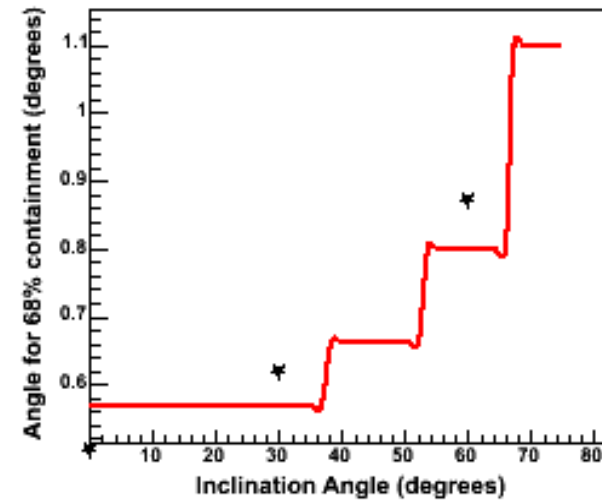
Relative Area vs. Angle of Incidence



Effective Area vs. Energy



Angular Resolution vs. Angle of incidence



Summary

- The four panel plots shown display a small region of the phase space. With the new interface, it is now easy to change the default energies and inclination angles and examine many versions of this plot.
- The cuts used to fit the IRF parameters and produce the black data points are hardwired in by whoever is performing the analysis. It is hard to be certain that everything is consistent. Jim has suggested that we should add a package that collects analysis cuts.
- Neither the DC1A nor DC1 IRFs are perfect, but both provide a reasonable representation of the instrument performance.
- DC1A IRFs are considerably more smooth.