GammaLib - Version_070 - # 8

{{lastupdated_at}} by {{lastupdated_by}}

GammaLib-00-07-00 release

This release of GammaLib contains the following changes:

- Add base module for interface classes
- Introduce GBase from which almost all classes derive
- Add dependency tracking for Python interface
- Add COMPTEL instrument interface
- Open FITS image using the equivalent data type
- Refactor CTA response classes
- Define new instrument response interface
- Add GSource class
- File locking failures do no longer throw exceptions
- Optimize GNodeArray computations and add unit tests
- Add handling of undefined and NaN values to GPar class
- Add GPhotons photon container class
- Implement mc(), flux() and eflux() for all spectral models
- Rework GTime interface and introduce GTimeReference class
- Add GModelSpectralLogParabola spectral model

The highlight of the GammaLib-00-07-00 release is certainly the initial implementation of the COMPTEL instrument interface. Now, COMPTEL data downloaded from the HEASARC web site can be analyzed using GammaLib. So far, only point source analysis is possible, and no specific background modeling techniques have been implemented, but a point source like the Crab is reasonably well fit.

The new release brings also a fundamental change in the design of GammaLib. Almost all classes now derived from the interface class GBase, which guarantees a minimum coherent interface among all GammaLib classes.

The interface for the instrument response functions has also been modified, by combining source and data arguments in a single argument (GPhoton, GEvent and GSource). This makes the interface more universal and easier to maintain in the future.

The implementation of all spectral model methods has also been completed. Now, all spectral models can be used for Monte Carlo simulations, and all spectral models allow the computation of the photon and energy flux over a specified energy band.