

GammaLib - CGROCOMPTEL_interface - # 2

{{lastupdated_at}} by {{lastupdated_by}}

CGRO/COMPTEL interface

Introduction

The COMPTEL telescope aboard the CGRO satellite has been flown from 1991-2000, collecting an unprecedented set of data in the energy range from 750 keV up to 30 MeV. Some information about the COMPTEL telescope and access to the data can be found at the following link: <http://heasarc.gsfc.nasa.gov/docs/cgro/compTEL>.

Although the COMPTEL database is very valuable, no software tools are publically available to exploit the COMPTEL data.

Datasets

A description of the COMPTEL datasets can be found at http://wwwgro.unh.edu/compTEL/compTEL_datasets.html.

All COMPTEL data are available in FITS format. The following datasets are relevant for COMPTEL data analysis:

- DRE: histogram of observed events, 3 dimensional, with axes Chi, Psi and Phibar
- DRG: geometrical response matrix, 3 dimensional with same axes and coordinate system identical to DRE
- DRX: exposure matrices in sky coordinates, 2 dimensional
- DRB: background model, 3 dimensional with same axes and coordinate system identical to DRE
- DRM: model, 3 dimensional with same axes and coordinate system identical to DRE
- IAQ: 2 dimensional response matrix, with axes Phigeo and Phibar
- FAQ: 3 dimensional response matrix, with axes Chi, Psi and Phibar

Information about the processed data is available at http://wwwgro.unh.edu/compTEL/compass/compass_users.html.

Here some further useful links concerning the data:

- <http://heasarc.gsfc.nasa.gov/W3Browse/cgro/compTEL.html>
- <http://heasarc.gsfc.nasa.gov/docs/journal/cgro7.html>
- <http://adsabs.harvard.edu/abs/1992NASCP3137...95D>
- <http://adsabs.harvard.edu/abs/2011AAS...21720602Z>
- <http://adsabs.harvard.edu/abs/2010HEAD...11.0907Z>

COMPASS software

The COMPTEL data were analysed using the COMPASS software that is not publically available.

Here some useful links:

- http://wwwgro.unh.edu/compTEL/compass/compass_mgr.html
- <http://wwwgro.unh.edu/compTEL/compass/evp/EVP.html>
- <http://wwwgro.unh.edu/compTEL/compass/sim/SIM.html>

Interface validation

Here a couple of links related to the GammaLib validation of the COMPTEL interface:

- [[COMPTEL Crab validation]]