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COMPTEL Crab validation

This page summarizes analysis results obtained using GammaLib on the Crab.

VP 1 validation

The interface has been validated using the COMPTEL data from Viewing Period 1. This observation was a 14 days pointing on the Crab. The analysis has been performed using GammaLib-00-07-00. The background has been modeled using a Phibar-fitted DRG file. This is only a crude background model, which may explain the discrepancy between nominal and fitted fluxes. The quoted sensitivities and the sensitivity derived by multiplying the statistical uncertainty by a factor of 3 are pretty close. Units are ph/cm2/s.

Energy	Nominal flux (1)	Fitted flux	Error	Quoted sensitivity (2)	Sensitivity (3*error)
0.7-1 MeV	5.55e-4	8.55e-4	5.80e-5	2.01e-4	1.74e-4
1-3 MeV	1.07e-3	1.283e-3	5.633e-5	1.68e-4	1.69e-4
3-10 MeV	3.98e-4	2.42e-4	2.48e-5	7.3e-5	7.43e-4
10-30 MeV	1.06e-4	5.03e-5	8.28e-6	2.8e-5	2.48e-5

References:

- (1) The Crab nebula and pulsar in the MeV range (attachment:Crab_analysis.pdf)
- (2) First COMPTEL source catalogue (attachment:COMPTEL_catalogue.pdf)

Files

COMPTEL_catalogue.pdf	3.91 MB	01/14/2013	Knödlseder Jürgen
Crab_analysis.pdf	386 KB	01/14/2013	Knödlseder Jürgen