GammaLib - Bug #2149

fits temporal model

07/05/2017 02:09 PM - Gasparetto Thomas

Status:	Closed	**Start date:**	07/05/2017
Priority:	Normal	**Due date:**	
Assigned To:	Knödlseder Jürgen	**% Done:**	100%
Category:		**Estimated time:**	0.00 hour
Target version:	1.3.1		

Description

I'm reporting a problem encountered when working with variable sources in which the temporal model is specified with a fits file.
According to the dedicated web page (http://cta.irap.omp.eu/ctools/users/user_manual/getting_started/models.html#temporal-model-components), the normalization has to be in the range 0 to 1.
I built a model in which the normalization is 1 for the few tens of seconds and then it decays as a power law, but I am having some problems when running the simulation with this model because I get an error message saying that some values exceeds 1.
I avoided this problem using a time normalization equal to 2.0 and multiplying the fits file by 0.5, and I don't get the error any more, but of course it is just a temporary solution.
Can you check if this is a real problem or if I'm doing something wrong?
thanks
Thomas Gasparetto

History

#1 - 07/06/2017 12:02 AM - Knödlseder Jürgen

Could you please post the FITS file that poses problems, as well as the XML file, so that I can reproduce the problem?

#2 - 07/06/2017 02:24 PM - Gasparetto Thomas

- File test_variable.tar added

user#3 wrote:

> Could you please post the FITS file that poses problems, as well as the XML file, so that I can reproduce the problem?

Here attached you can find the xml model as well as the spectrum (in dat file) and the light curve in FITS format.
There is also a screenshot from the error that I get.

#3 - 07/06/2017 02:54 PM - Knödlseder Jürgen

- Status changed from New to In Progress

- Assigned To set to Knödlseder Jürgen

- Target version set to 1.3.1

- % Done changed from 0 to 80

Thanks for the files. I found the problem. Although it looks like the FITS file contains no values larger than 1, there was a value at time 50 with a value of 1 + 2.22045e-16, which led to the problem.

I now added a small margin of 1e-8 when light curve normalisation are tested to accommodate for round-off errors. If there are some values in the interval [1, 1+1e-8] they will internally all set to 1.0.

I'm about to merge the change in the bugfix-1.3.1 branch.

#4 - 07/06/2017 02:57 PM - Gasparetto Thomas

ok perfect!
thanks!

#5 - 07/07/2017 01:46 AM - Knödlseder Jürgen

- Status changed from In Progress to Closed

- % Done changed from 80 to 100

Merged in bugfix-1.3.1.

Files

test_variable.tar	526 KB	07/06/2017	Gasparetto Thomas