

GammaLib - Bug #2462

Fix internal spectral nodes in GCTABackground3D

04/26/2018 02:20 PM - Knödlseider Jürgen

Status:	Closed	Start date:	04/26/2018
Priority:	Urgent	Due date:	
Assigned To:	Knödlseider Jürgen	% Done:	100%
Category:		Estimated time:	0.00 hour
Target version:	1.5.2		

Description

Martina Cardillo reported a problem during the event simulations using some custom IRFs. For some reason, the simulated energies are outside the energy range of interest. Here the error message that occurs with the attached test script:

```
ValueError: *** ERROR in GCTABackground3D::mc(GEnergy&, GTime&, GRan&): Invalid value. Event energy 395.910126393249 TeV is outside the energy range [630.957365036011 GeV, 350.392200724172 TeV] covered by the background response table. Please restrict the energy range of the simulation to the validity range of the background response table.
```

It turned out that the number of internal nodes were not correctly computed in GCTABackground3D::init_mc_cache. Instead of

```
double logE_bin = (m_logE_max - m_logE_min) / (nbins+1);
```

the line should be

```
double logE_bin = (m_logE_max - m_logE_min) / (nbins-1);
```

History

#1 - 04/26/2018 02:47 PM - Knödlseider Jürgen

- Status changed from New to Feedback

- % Done changed from 0 to 100

Changing the code did indeed fix the problem.

#2 - 04/30/2018 03:09 PM - Knödlseider Jürgen

- Status changed from Feedback to Closed

Code included in release 1.5.2 and also merged into devel

Files

test.py	841 Bytes	04/26/2018	Knödlseider Jürgen
model_src+bkg_CTA.xml	1.14 KB	04/26/2018	Knödlseider Jürgen
IRF_ASTRI_cut_mod_2.fits	166 KB	04/26/2018	Knödlseider Jürgen