

GammaLib - Change request #2343

Change GCTABackground3D to support different column names

02/23/2018 10:20 AM - Tiziani Domenico

Status:	Closed	Start date:	02/23/2018
Priority:	Normal	Due date:	
Assigned To:	Knödlseider Jürgen	% Done:	100%
Category:		Estimated time:	0.00 hour
Target version:	1.6.0		
Description Right now, GCTABackground3D is initialised with background information from a column with the hardcoded name "BGD": <code>m_inx_bgd = m_background.table("BGD");</code> However, specifications for gamma-ray data formats suggest "BKG": http://gamma-astro-data-formats.readthedocs.io/en/latest/irfs/full_enclosure/bkg/index.html#bkg-3d Maybe this class should be changed to support multiple column names.			

History

#1 - 02/23/2018 12:18 PM - Knödlseider Jürgen

- Target version set to 1.5.1

I agree that the class should support both column names.

#2 - 03/26/2018 02:39 PM - Knödlseider Jürgen

- Target version changed from 1.5.1 to 1.6.0

#3 - 07/31/2018 01:57 PM - Knödlseider Jürgen

- Status changed from New to In Progress
- Assigned To set to Knödlseider Jürgen
- % Done changed from 0 to 10

Here the places where BGD is explicitly hardcoded in GammaLib:

```
inst/cta/src/GCTABackground3D.cpp: m_inx_bgd = m_background.table("BGD");
inst/cta/src/GCTAResponseIrf.cpp:   bgdname = m_caldb.filename("", "", "BGD", "", "", expr);
```

The code in GCTABackground3D refers to a column name in the background response table, the code in GCTAResponseIrf refers to the name in the caldb index. For the later, the handling of a BKG is already supported.

And here the places where BGD is explicitly hardcoded in ctools:

```
cscripts/csobs2caldb.py:   table['CAL_CNAM'][row] = 'BGD'
cscripts/csroot2caldb.py:   names = ['EA', 'PSF', 'EDISP', 'BGD']
cscripts/csroot2caldb.py:   # Create "BGD" data column
cscripts/csroot2caldb.py:   self._make_3D(array, ds['HDU_BGD'], 'BGD', '1/(MeV s sr)')
test/test_csobs2caldb.py:   bgd = gammalib.GFilename(db.filename("", "", "BGD", "", "", expr))
test/dev/cta_kb_root2caldb.py:   self.bgd_name = "BGD"
```

#4 - 07/31/2018 02:34 PM - Knödseder Jürgen

- % Done changed from 10 to 30

I changed GCTABackground3D so that it now first searches for a response table with name BKG, and only if such a table does not exist, searches for a table with name BGD. This assures backwards compatibility with old calibration files.

I also updated all keywords in the calibration files from BGD to BKG, and made also the background units compliant with astropy.

#5 - 07/31/2018 04:04 PM - Knödseder Jürgen

- Status changed from In Progress to Pull request

- % Done changed from 30 to 100

I also changed the ctools code. All BGD are now replaced by BKG.

#6 - 07/31/2018 05:56 PM - Knödseder Jürgen

- Status changed from Pull request to Closed

Merged into devel.