

## GammaLib - Change request #2677

### Do no longer interpolate for background cube

09/12/2018 05:09 PM - Knödlseider Jürgen

<b>Status:</b>	Closed	<b>Start date:</b>	09/12/2018
<b>Priority:</b>	Immediate	<b>Due date:</b>	
<b>Assigned To:</b>	Knödlseider Jürgen	<b>% Done:</b>	100%
<b>Category:</b>		<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>	1.6.0		
<b>Description</b>			
Interpolation of a stacked background cube is problematic when combining various energy thresholds. The background cube should be exactly in the same binning as a counts cube since both live in the same space. The same energy layer selection should be implemented in <code>ctbin</code> and <code>GCTACubeBackground</code> so that both cubes are compatible. The <code>m_energies</code> member in <code>GCTACubeBackground</code> should be changed into a <code>m_ebounds</code> member. <code>ctbkgcube</code> should be changed accordingly.			

### History

#### #1 - 09/13/2018 11:26 AM - Knödlseider Jürgen

- Status changed from *New* to *Closed*

- % Done changed from 0 to 100

The interface to `GCTACubeBackground` was changed. The energies of the background cube are now defined using a `GEbounds` instance, before they were defined using a `GEnergies` instance. This means that the background cube can now be defined in exactly the same way as a counts cube.

The evaluation of the background cube values is done by integrating the background rate over the energy bins assuming a power law. This should make the evaluation relatively insensitive to the exact number of energy bins.

The test data files were updated so that they are compliant with the new format. Specifically, an energy boundary extension is now stored in the FITS file instead of an energies extension.

The changes were merged into `devel`.