

GammaLib - Action #740

Feature # 733 (Closed): Implement SPI observation interface

Implement GSPIObservation

02/06/2013 04:46 PM - Knödlseider Jürgen

Status:	Closed	Start date:	
Priority:	Normal	Due date:	
Assigned To:	Knödlseider Jürgen	% Done:	100%
Category:		Estimated time:	0.00 hour
Target version:	1.7.0		
Description			

History

#1 - 02/18/2013 05:08 PM - Knödlseider Jürgen

- File *obs_spi.xml* added

Find attached a draft XML file for handling SPI data: attachment:obs_spi.xml.

#2 - 12/11/2013 10:20 PM - Knödlseider Jürgen

- Target version deleted (SPI sprint #1)

#3 - 04/05/2020 10:21 PM - Knödlseider Jürgen

- Status changed from New to In Progress

- Assigned To set to Knödlseider Jürgen

- Target version set to 1.7.0

- % Done changed from 0 to 50

I started to implement the GSPIObservation class. The loading of the Observation Group is so far supported, the following XML file can be digested by the class:

```
<?xml version="1.0" standalone="no"?>
<observation_list title="observation library">
  <observation name="Crab" id="0044" instrument="SPI">
    <parameter name="ObservationGroup" file="$TEST_SPI_DATA/obs/og_spi.fits"/>
  </observation>
</observation_list>
```

I still need to implement support for the response functions.

#4 - 04/06/2020 01:02 AM - Knödlseider Jürgen

I merged the current code into devel, yet I still need to add the response part.

#5 - 04/14/2020 10:29 AM - Knödlseider Jürgen

- % Done changed from 50 to 90

I need to add some little code that will automatically load the SPI response when it is encountered in the XML file.

#6 - 04/14/2020 01:54 PM - Knödlseider Jürgen

- File *obs_rspfile.xml* added
- File *obs_rspgrp_line.xml* added
- File *obs_rspgrp.xml* added
- File *obs.xml* added
- File *test.py* added

I completed the XML interface for a SPI observation. It is possible to specify now either a response group or a response file. For a response group it is furthermore possible to specify the line energy. Here are the possible XML formats that are supported:

```
<observation name="Crab" id="0044" instrument="SPI">
  <parameter name="ObservationGroup" file="og_spi.fits"/>
</observation>
<observation name="Crab" id="0044" instrument="SPI">
  <parameter name="ObservationGroup" file="og_spi.fits"/>
  <parameter name="ResponseGroup" file="spi_irf_grp.fits" energy="511"/>
</observation>
<observation name="Crab" id="0044" instrument="SPI">
  <parameter name="ObservationGroup" file="og_spi.fits"/>
  <parameter name="ResponseFile" file="irf.fits"/>
</observation>
```

Attached a test script attachment: *test.py* and several XML files that are needed for testing:

- attachment: *obs.xml*
- attachment: *obs_rspgrp.xml*
- attachment: *obs_rspgrp_line.xml*
- attachment: *obs_rspfile.xml*

#7 - 04/14/2020 01:56 PM - Knödlseider Jürgen

- Status changed from *In Progress* to *Pull request*
- % Done changed from 90 to 100

#8 - 04/14/2020 02:55 PM - Knödlseider Jürgen

- Status changed from *Pull request* to *Closed*

Merged into devel.

Files			
obs_spi.xml	443 Bytes	02/18/2013	Knödseder Jürgen
obs_rspfile.xml	353 Bytes	04/14/2020	Knödseder Jürgen
obs_rspgrp_line.xml	413 Bytes	04/14/2020	Knödseder Jürgen
obs_rspgrp.xml	400 Bytes	04/14/2020	Knödseder Jürgen
obs.xml	296 Bytes	04/14/2020	Knödseder Jürgen
test.py	959 Bytes	04/14/2020	Knödseder Jürgen