GammaLib - Action #726

Feature # 725 (New): Allow for instrument dependent model scaling

Add instrument scaling to sky models

01/31/2013 05:31 PM - Knödlseder Jürgen

Status:	Closed	**Start date:**	01/31/2013
Priority:	Normal	**Due date:**	
Assigned To:	Knödlseder Jürgen	**% Done:**	100%
Category:		**Estimated time:**	10.00 hours
Target version:			

Description

History

#1 - 01/31/2013 05:39 PM - Knödlseder Jürgen

It should be possible to scale each model component by a specific factor for a given instrument. This should be accomplished by adding a <scaling> tag, e.g.

```
<source name="1FGL J0005.7+3815" type="PointSource">
   <spectrum type="PowerLaw">
      <parameter scale="1e-07" name="Prefactor" min="1e-07" max="1000.0" value="1.73" free="1"/>
      <parameter scale="1.0" name="Index" min="-5.0" max="+5.0" value="-2.1" free="1"/>
      <parameter scale="1.0" name="Scale" min="10.0" max="1000000.0" value="100.0" free="0"/>
   </spectrum>
   <spatialModel type="SkyDirFunction">
      <parameter free="0" max="360" min="-360" name="RA" scale="1" value="83.6331" />
      <parameter free="0" max="90" min="-90" name="DEC" scale="1" value="22.0145" />
   </spatialModel>
   <scaling>
      <instrument name="LAT" scale="1.0" min="0.1" max="10.0" value="1.0" free="1"/>
      <instrument name="CTA" scale="1.0" min="0.1" max="10.0" value="0.5" free="1"/>
   </scaling>
</source>
```

#2 - 01/31/2013 06:21 PM - Knödlseder Jürgen

- Status changed from New to In Progress

#3 - 02/05/2013 05:15 PM - Knödlseder Jürgen

- Status changed from In Progress to Feedback

- % Done changed from 0 to 100

- Remaining (hours) changed from 10.0 to 0.0

The instrument specific scaling for individual models has been implemented. XML reading and writing has been tested.

Note that fitting of instrument specific scaling factors is not implemented. These scaling factors are not counted among the parameters of a model.

#4 - 02/05/2013 06:34 PM - Knödlseder Jürgen

- Status changed from Feedback to In Progress

- % Done changed from 100 to 80

We still have to implement the model scaling in the npred() method.

#5 - 02/05/2013 08:37 PM - Knödlseder Jürgen

- Status changed from In Progress to Feedback

#6 - 02/05/2013 08:39 PM - Knödlseder Jürgen

- Subject changed from Add instrument scaling to spectral models to Add instrument scaling to sky models

- % Done changed from 80 to 100

Model scaling has now also been implemented in the npred() method.

The functionnality has been tested using COMPTEL binned data and CTA unbinned data.

#7 - 12/03/2013 09:59 AM - Knödlseder Jürgen

- Status changed from Feedback to Closed

#8 - 12/10/2013 12:18 AM - Knödlseder Jürgen

- Target version deleted (00-08-00)