

GammaLib - Action #2722

Remove cube response caching.

11/07/2018 02:18 PM - Knödlseider Jürgen

| | | | |
|--|--------------------|------------------------|------------|
| Status: | Closed | Start date: | 11/07/2018 |
| Priority: | Normal | Due date: | |
| Assigned To: | Knödlseider Jürgen | % Done: | 100% |
| Category: | | Estimated time: | 0.00 hour |
| Target version: | 1.6.0 | | |
| Description | | | |
| The diffuse source caching should not be needed anymore in the stacked response, since the caching is now done at the GCTAResponse::irf level (see #2715). Accordingly the caching should be removed. Before removing the code, some checks should be done that the results are identical. | | | |

History

#1 - 11/14/2018 07:59 PM - Knödlseider Jürgen

- Status changed from New to Closed

- % Done changed from 0 to 100

I removed the caching.

Here some fit results before removal of caching:

```
2018-11-12T08:04:53: +=====+
2018-11-12T08:04:53: | Maximum likelihood optimisation results |
2018-11-12T08:04:53: +=====+
2018-11-12T08:04:53: === GOptimizerLM ===
2018-11-12T08:04:53: Optimized function value ..: 212467.591
2018-11-12T08:04:53: Absolute precision .....: 0.005
2018-11-12T08:04:53: Acceptable value decrease ..: 2
2018-11-12T08:04:53: Optimization status .....: converged
2018-11-12T08:04:53: Number of parameters .....: 10
2018-11-12T08:04:53: Number of free parameters ..: 5
2018-11-12T08:04:53: Number of iterations .....: 5
2018-11-12T08:04:53: Lambda .....: 1e-08
2018-11-12T08:04:53: Maximum log likelihood ....: -212467.591
2018-11-12T08:04:53: Observed events (Nobs) ...: 64000.000
2018-11-12T08:04:53: Predicted events (Npred) ..: 63985.858 (Nobs - Npred = 14.1421277142872)
2018-11-12T08:04:53: === GModels ===
2018-11-12T08:04:53: Number of models .....: 2
2018-11-12T08:04:53: Number of parameters .....: 10
2018-11-12T08:04:53: === GModelSky ===
2018-11-12T08:04:53: Name .....: RX J1713.7-3946
2018-11-12T08:04:53: Instruments .....: all
2018-11-12T08:04:53: Test Statistic .....: 688.935065519356
2018-11-12T08:04:53: Instrument scale factors ..: unity
2018-11-12T08:04:53: Observation identifiers ...: all
2018-11-12T08:04:53: Model type .....: DiffuseSource
2018-11-12T08:04:53: Model components .....: "DiffuseMap" * "ExponentialCutoffPowerLaw" * "Constant"
2018-11-12T08:04:53: Number of parameters .....: 6
2018-11-12T08:04:53: Number of spatial par's ...: 1
2018-11-12T08:04:53: Normalization .....: 1 [0.001,1000] (fixed,scale=1,gradient)
2018-11-12T08:04:53: Number of spectral par's ...: 4
2018-11-12T08:04:53: Prefactor .....: 1.77551551650277e-17 +/- 1.4829292225055e-18 [1e-25,infnty[ ph/cm2/s/MeV
(free,scale=1e-17,gradient)
2018-11-12T08:04:53: Index .....: -1.93112844935052 +/- 0.107644046874146 [10,-10] (free,scale=-2,gradient)
2018-11-12T08:04:53: CutoffEnergy .....: 7091998.49234884 +/- 2611571.54562713 [0.1,infnty[ MeV (free,scale=1000000,gradient)
2018-11-12T08:04:53: PivotEnergy .....: 1000000 MeV (fixed,scale=1000000,gradient)
2018-11-12T08:04:53: Number of temporal par's ...: 1
2018-11-12T08:04:53: Normalization .....: 1 (relative value) (fixed,scale=1,gradient)
2018-11-12T08:04:53: === GCTAModelCubeBackground ===
2018-11-12T08:04:53: Name .....: BackgroundModel
2018-11-12T08:04:53: Instruments .....: CTA, HESS, MAGIC, VERITAS
```

2018-11-12T08:04:53: Instrument scale factors ...: unity
2018-11-12T08:04:53: Observation identifiers ...: all
2018-11-12T08:04:53: Model type: "PowerLaw" * "Constant"
2018-11-12T08:04:53: Number of parameters: 4
2018-11-12T08:04:53: Number of spectral par's ...: 3
2018-11-12T08:04:53: Prefactor: 0.962991394831387 +/- 0.0048520819609645 [0.01,100] ph/cm2/s/MeV (free,scale=1,gradient)
2018-11-12T08:04:53: Index: -0.0146948929468694 +/- 0.00543130078271457 [-5,5] (free,scale=1,gradient)
2018-11-12T08:04:53: PivotEnergy: 1000000 MeV (fixed,scale=1000000,gradient)
2018-11-12T08:04:53: Number of temporal par's ...: 1
2018-11-12T08:04:53: Normalization: 1 (relative value) (fixed,scale=1,gradient)

And here afterwards. The results are identical.

```
2018-11-12T18:00:34: +=====+
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2018-11-12T18:00:34: CutoffEnergy .....: 7091998.49234884 +/- 2611571.54562713 [0.1,infy] MeV (free,scale=10000000,gradient)
2018-11-12T18:00:34: PivotEnergy .....: 1000000 MeV (fixed,scale=1000000,gradient)
2018-11-12T18:00:34: Number of temporal par's ...: 1
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The code was merged into devel.