GammaLib - Change request #2173

Guarantee consistency of Good Time Intervals in the GGti class

07/28/2017 07:50 PM - Knödlseder Jürgen

Status:	New		**Start date:**	07/28/2017
Priority:	Normal		**Due date:**	
Assigned To:			**% Done:**	0%
Category:			**Estimated time:**	0.00 hour
Target version:				

Description

So far, the GGti class does not handle overlapping time intervals, and the class also assumes that time intervals are always in order. The user can append an overlapping time interval to the class, and as a consequence, the ontime would be wrongly calculated.

The class should be changed so that:

- the append() method always verifies that tstart is not smaller than the last tstop (this assures the time ordering and allows to append a new interval where tstart is the last tstop)
- the insert() method inserts a time interval in an appropriate slot, and eventually merges with existing time intervals if there is an overlap
- the merge() method would then only merge connecting time intervals since by definition there should no longer be overlapping intervals
- the merge(GTime,GTime) method is probably obsolete since the insert() method does already what the method is expected to do
- the reduce() method stays as it is
- the extend() method always verifies that tstart of the first time interval to add is not smaller than the tstop of the last interval (similar to append)
- the read() method should also complain about overlapping time intervals

The class should also use a std::vector to hold the times and not perform its own memory management (this is a relict from the early days).

History

#1 - 07/28/2017 07:51 PM - Knödlseder Jürgen

- Related to Feature #2142: GGti::exclude(tstart,tstop) added

#2 - 07/28/2017 07:52 PM - Knödlseder Jürgen

- Related to deleted (Feature #2142: GGti::exclude(tstart,tstop))

#3 - 10/11/2017 09:01 PM - Knödlseder Jürgen

- Subject changed from Guarantee consistency of Good Time Intervals in the @GGti@ class to Guarantee consistency of Good Time Intervals in the GGti class