

## GammaLib - Feature #1864

### Introduce time parameters in IRAF parameter interface

10/05/2016 05:46 PM - Knödlseider Jürgen

<b>Status:</b>	Closed	<b>Start date:</b>	10/05/2016
<b>Priority:</b>	Normal	<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>	1.5.0		
<b>Description</b>			
<p>I propose to extend the IRAF parameter interface by adding a new parameter type <code>t</code> that handles times. The reasoning is that a time can be specified in various formats, for example an UTC string, a MJD floating point value, or a mission elapsed (native) time. The handling of the different formats can be done at the interface level, and corresponding <code>time()</code> methods will allow to set and get the times using the <code>GTime</code> class.</p> <p>The format of the input string need some discussion. UTC strings (e.g. 2016-10-05T15:08:56) should be supported, and providing a simple floating point value (e.g. 1800.0) should (probably) set the native format in TT for compliance with previous applications. Here a possible list of strings that may be supported (list incomplete):</p> <ul style="list-style-type: none"><li>• "2016-10-05T15:08:56" (UTC string)</li><li>• "1800.0" (MET seconds in native reference, TT system)</li><li>• "1800.0 (UTC)" (MET seconds in native reference, UTC time system)</li><li>• "1800.0 (TAI)" (MET seconds in native reference, TAI time system)</li><li>• "MJD 54609" (Modified Julian Days, TT system)</li><li>• "MJD 54609 (TT)" (Modified Julian Days, TT system)</li><li>• "MJD 54609 (UTC)" (Modified Julian Days, UTC system)</li><li>• "JD 54609 (TAI)" (Julian Days, TAI system)</li></ul> <p>Spaces in the strings should be optional (i.e. "JD54609(TAI)" should be valid).</p> <p>Here an example of a possible parfile:</p> <pre>tmin, t, a, 2016-10-05T08:00:00,, "Start time" tmax, t, a, 2016-10-05T10:00:00,, "Stop time"</pre> <p>The following methods should be added to <code>GApplicationPar</code>:</p> <pre>void time(const GTime&amp; value); GTime time(void); void check_value_time(const std::string&amp; value) const;</pre>			

#### History

##### #1 - 03/03/2017 10:18 AM - Knödlseider Jürgen

- Target version changed from 1.2.0 to 1.3.0

##### #2 - 06/06/2017 10:28 PM - Knödlseider Jürgen

- Target version changed from 1.3.0 to 1.4.0

##### #3 - 07/31/2017 11:09 PM - Knödlseider Jürgen

- Target version changed from 1.4.0 to 1.5.0

**#4 - 08/07/2017 05:20 PM - Knödseder Jürgen**

- *Status changed from New to In Progress*
- *Assigned To set to Knödseder Jürgen*

I implemented a time string constructor and set method in the GTime class that handles the transformation from a string to a time value. I also added a time parameter to the GApplicationPar class.

Now I need to check whether the new features can be used by the ctools.

**#5 - 08/07/2017 05:20 PM - Knödseder Jürgen**

- *% Done changed from 0 to 50*

**#6 - 08/08/2017 05:18 PM - Knödseder Jürgen**

- *% Done changed from 50 to 80*

The following cscripts and ctools now use the new t-type parameter:

- cslightcrv
- cspull
- cstdist
- csviscube
- ctmodel
- ctobssim
- ctselect

An extensive testing of these tools, as well as of ctubermask, should be performed to check that the times are correctly taken into account.

**#7 - 09/02/2017 05:34 PM - Knödseder Jürgen**

- *Status changed from In Progress to Closed*
- *% Done changed from 80 to 100*

Merged into devel