

Main differences between V2.0.1 and V2.1

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Compatibility with PATRIUS

This version is compatible with the version 4.4 of the [PATRIUS](#) library.

New Time scales

If the default mode is the same than for the previous versions, it is now possible to customize the time scales menu of the [GPAbsoluteDate](#) widget and thus to add these additional scales (available inside the [PATRIUS](#) library) as in the example below:

```
ts[0] = GPDateTimeScale.GMST;  
ts[1] = GPDateTimeScale.GST;  
ts[2] = GPDateTimeScale.TCG;  
ts[3] = GPDateTimeScale.UTC;  
gpDate = new GPAbsoluteDate("Date:", date0, ts);
```

New maneuvers trigerring criteriae

New criteriae on nodes and apsides have been added to the previous ones (relative or absolute dates and [AOL](#))

Impulsive maneuvers with orbital parameters criteriae

It is now possible to define an impulsive maneuver giving orbital parameters increments:

- on semi-major axis
- on eccentricity (and semi-major axis eventually)
- on inclination (and semi-major axis eventually)

Recurrent date events

It is now possible to define date (relative or absolute ones) events with a recurrence (for example each day) using specific widgets as [GPRecurrentDateDetector](#) and [GPRecurrentRelativeDateDetector](#).

New widget for numerical integrators definition

New specific widgets have been created to deal with numerical integrators as some of ones defined in [PATRIUS](#): [Runge Kutta 4](#), [Runge Kutta 6](#) and [Dormand Price 853](#). More informations are given [here](#).

Additional validity criteria on PRS coefficients

Besides validity interval of [0,1] for each coefficient, there is an additional test on the sum of the three coefficients (absorption, specular and diffuse) that must be equal to 1.

New autonomous tool to work on orbit data

For people who want to work on orbit characteristics (date, frame, parameters) without coding, it is now possible to use a dedicated autonomous tool with its own [GUI](#) (gporbitconvertor-x.x-jar-with-dependencies.jar).

Anomaly corrections

- Impossibility to initialize an orbit using a H0-n frame.
- Bad [[PATRIUS](#)] [Orbit](#) building when using the [getPatriusObject\(\)](#) method: if the displayed frame is different of the "pivot" one, displayed frame is taken into account but orbital elements are coming from the "pivot" one (this bug was also present in previous versions).
- Calling [GPVisibilityFromStationDetector](#) or [GPAttitudeSequence](#) widgets make the tool incompatible with a headless mode (no display).

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