

Main differences between V11.0 and V11.1

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[Main differences between V11.0 and V11.1](#)

This version includes essentially ergonomic improvement of the tool. Nevertheless, some new functionalities as [SQLite](#) output files have a real interest.

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Compatibility with PATRIUS V3.3

This **PSIMU** version is compatible with [PATRIUS](#) V3.3, especially with its new management of exceptions due to divisions by zero as well as corrections when taking into account surface force models in conjunction with continuous thrust (numerical aspects).

GUI improvements

- Some **Copy&Paste** (and **Import/Export**) functionalities have been added to some widgets as for the orbital initial conditions or the maneuvers.
- For events which manage multiple occurrences, changes occurred to be more obvious for the user with now three entries:
 - From nth occurrence
 - Every n occurrence
 - Until nth occurrence
- Force models:
 - Choice of the "attraction models" (i.e. [Balmino](#), [Cunnigham](#), ...) has been hided with [Balmino](#) choice by default.
 - By default values are proposed for [SRP](#).
- Maneuvers:
 - If engines and/or tanks needed to define a maneuver is set to **NONE**, the maneuver (and the sequence) raised an error.
 - by default, maneuvers components are set to "**Angular**" as event is a "**Relative date**".
 - For the sequence of maneuver, the delays between maneuvers are now hided.

Cartesian coordinates in the Console output

Now, this output is only displayed in "Debug mode" (Options menu).

By default configuration frame

The by default configuration frame has been changed considering only precession-nutation.

Null dry mass

Now a dry mass set to zero is only raising a warning and no more an error. Moreover, it is possible to extrapolate with such a null value, of course with the condition not to consider force models needing a positive one (as drag or **SRP** forces).

Attitude management

It is now possible to define an attitude sequence more simply that using switches, using a single attitude law.

Improvement of graphical displays

Now, it is not necessary to load the current result file. Moreover some improvement has been implemented as a better up to date of the title or the management of discontinuities (for example when plotting latitudes or longitudes).

Variable names

Some names changed in the **XML** files in order to be more consistent (for example, capitals vs lowercas letters

Output methods

- In « master mode», the `printFiles()` method allows to create same kind of files as in **GUI** mode.
- The `getSV()` method allows to recover output variables.

Events in SpacecraftState list

Orbital events are now stored inside the SpacecraftState list computed in master mode.

Output storage

Rather than to use a binary file as in the previous version, the output of the computation including all computed intermediate parameters (with the output step as defined by the user as well as orbital events) are stored in a **SQLite** formatted file which can be read directly by **PSIMU** plots but also by many other tools (some are free) compatible with this format.

Moreover, when using the master mode, an additional parameter is used to define how output data are stored.

=> incompatibility in the code due to an additional argument in the propagateInMasterMode() method. Method getListOfSpacecraftStates() is also renamed as getSpacecraftStateList().

Anomaly corrections

- In the previous version, sometimes the JVM continued to run after exiting the GUI application
- After reading a scenario file, if an error (exception) is raised as the absolute path of the file contains some blank characters, nothing previously occurred (i.e. no messages appeared while data do not have been loaded) => now corrected in V11.1
- bug when displaying perigee altitude.
- bad update of the units for date offsets.

Récupérée de

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