

Accueil

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WHY PATRIUS?

PATRIUS is a core space dynamics [Java](#) library that enables to quickly develop high level algorithms such as orbit extrapolator. **PATRIUS** contains several low level classes (i.e.: such as matrix, vectors, orbits parameters) as well as high level classes and interfaces (i.e.: numerical propagators, attitude laws, manoeuvres sequences).

MAIN ADVANTAGES

All the main domains of space dynamics are available:

- Analysis, algebra & geometry (quaternions, derivable functions, integrators ...)
- Core objects for space dynamics (dates, orbits, frames...)
- Orbit propagation: analytical, semi-analytical and numerical propagators, a full set of force models
- Maneuvers: impulsive or continuous thrust, sequences
- Attitude: extensible set of attitude laws, sequences and guidance framework
- Events: event detection (orbital, sensor events, etc.) and post-processing (chronograms)
- Spacecraft: characteristics of mass, geometry (drag force), sensors field of view, etc.

PATRIUS got a deep validation by comparison with precise orbitography tools. Moreover, it is now fully used by CNES tools, in particular for operational flight dynamics subsystem ([FDS](#)). For that reason the criticality level is “C”.

Furthermore, **PATRIUS** design relies on extensible [Java](#) interfaces and robust design patterns.

REMARKS

A data package ([PATRIUS_DATASET](#)) is also provided in addition allowing access to some data models.

Tutorials are available in specific tutorials pages.

CURRENT VERSION: 4.13

PATRIUS V4.13 is a release adding a few features as well as correcting some bugs (see [here](#)).

PREVIOUS VERSIONS (available on the Web site)

- Version 4.12

- Version 4.11
- Version 4.10
- Version 4.9
- Version 4.8
- Version 4.7
- Version 4.6.1
- Version 4.5.1
- Version 4.4
- Version 4.3
- Version 4.2
- Version 4.1.1
- Version 4.1
- Version 4.0
- Version 3.4.1
- Version 3.3
- Version 3.2

DEPENDENCIES

Version	4.13	4.12	4.11	4.10	4.9	4.8	4.7	4.6.1	4.5.1	4.4	4.3	4.2	4.1.1	4.0	3.x
Disponibility	from 19/12/2023	from 19/12/2023	from 23/05/2023	from 03/11/2022	from 30/05/2022	from 20/10/2021	from 04/06/2021	from 02/04/2021	from 13/08/2020	from 30/10/2019	from 15/06/2019	from 17/01/2019	from 16/10/2018	from 22/01/2018	-
Javadoc	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Dependencies	Java 1.8	Java 1.8	Java 1.8	Java 1.8	Java 1.8	Java 1.8	Java 1.8	Java 1.8	Java 1.8	Java 1.8	Java 1.7	Java 1.7	Java 1.6	Java 1.6	

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• Dernière modification de cette page le 11 janvier 2024 à 13:05.

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