Tutorials 4.1 Attitude

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Attitude

We must not confuse an Attitude and an AttitudeLaw (or AttitudeLawLeg). Indeed an Attitude is the current orientation of the spacecraft as the other ones will define the "laws" allowing to determine at each moment, the Attitude.

For example, if we have an inertial AttitudeLaw, the (inertial) Attitude of the spacecraft will be the same at each moment of the trajectory.

But if we have a Sun Pointing AttitudeLaw, the current Attitude will change at each step.

So, most of the time, users will define AttitudeLaw or AttitudeLawLeg and will get the current Attitude using the getAttitude() method.

Attitude laws

Building an attitude law is relatively easy, using one of the the constructors available depending of the kind of law you want to use. Next examples show different cases.

Code examples:

- create a LOF attitude law
- create a Solar pointed attitude law
- create a two directions attitude law

Attitude legs

To be written ...

Attitude sequence

AttitudesSequence is a very powerful concept which allows to define attitude logic all along a mission. Indeed, as it is based on orbital events detection, it avoids to define step by step attitude laws. For example, if we want to have:

- LVLH attitude during eclipse

- Sun pointing attitude else

... only two "switches" inside the attitude sequence are sufficient. It is coded in the proposed following tutorial.

Code example: create a sequence of attitude laws

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