
Exercices on on-line vizualisation tools

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Résumé

This session follows the lecture entitled "Presentation of the TLE NORAD catalog, and on-line related tools, such as the IXION s/w". It will be devoted to practical exercices on vizualisation of orbits, by using the Two-Line Elements, that are made up by positions and velocities of thousands of space objects at given times, through catalogs that are publicly available on the web.

The exercices will be led by using the (on-line version of) IXION and the Celestlab package software. IXION is a propagator of trajectories that can be projected into global or local frames, that is very convenient, without any equation to be operated by the user, to investigate the visiblity conditions of artificial satellites from space or from the ground. Celestlab is a Scilab toolbox provided by CNES, in view of mission analysis purpose, and does contain many functionalities and a useful documentation of the equations that are carried out.

Exercices will be focused on practical questions such as: ground track of trajectories, accuracy of the epoch and location to the ground of an atmospheric reentry, visiblity conditions of spacecraft flying the Earth in various dynamical configurations.

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