
Space weathering effects on space dust dynamics (practice)

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Résumé

In this practicals we learn how to use computer algebra systems to investigate the influence of non-gravitational effects on the Kepler elements of a dust particle orbiting the Earth. The session includes a basic introduction into computer algebra systems with special emphasis on Wolfram Mathematica. Next we implement and compare analytical expansions of the 2-body problem with numerical simulations. Finally, we aim to investigate the long-term effect of a dipole magnetic field on the orbital motion of a charged dust particle around the Earth. The deliverable will be presentation of the results as well as a set of tools to be used for further investigations in these kinds of problem.

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