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# Space weathering effects on space dust dynamics

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## Résumé

Dust in space is subject to various non-gravitational forces due to the solar wind, the Poynting-Robertson effect, and interactions with magnetic fields and space plasmas. The orbital motion of space dust strongly depends on the the order of magnitude of these effects, i.e. the ratio of gravitational and non-gravitational forces. This session is devoted to the role of space weathering effects on perturbed Keplerian motions with applications to dust and space debris dynamics in the vicinity of the Earth and the Heliosphere. We will derive and investigate the equations of motions for space dust in the Newtonian, Gaussian, and near Hamiltonian framework by means of numerical simulations, and analytical estimates.

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