Abstract Details

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Title: Coherent large-amplitude waves in multi-ion plasmas originated fror oscillitons: Application to the foreshock of Earth and Mars

Abstract:

In multi-ion plasmas a new class of stationary non-linear waves exis vicinity of the cross-over frequencies. These are soliton-like structure superimposed spatial oscillations which arise from the momentum co between both ion populations via the LF electromagnetic field. In the free energy in form of an ion beam the so-called oscillitons can be ex An example is the generation of large-amplitude LF waves by ions ref from the Earth's bow shock which get gyrophase-bunched within the linear structure. Similar effects appear at Mars where 'picked-up' exo protons moving relative to the main solar wind population are the sou oscillitons. Theory and observations by CLUSTER and MGS are discus

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