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Title Oblique Propagation of ion-acoustic solitary wave in a magnetized plasma with electrons following a generalized distribution function.

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Abstract

A magnetized plasma containing inertial ions and non-inertial electrons following a generalized distribution function, which reduces to Maxwellian, j type super thermal, and trapped distribution functions for different limiting cases, is considered. The reductive perturbation method is employed to examine the





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formation and basic features of small but finite amplitude obliquely propagating ion-acoustic solitary waves (OPIASWs) in such a magnetized plasma. The effects of the parameters involving super thermal and trapped distribution functions, obliqueness, and external magnetic field on the basic features of OPIASWs are identified. The applications of the results of this work in different space and laboratory plasma situations are briefly discussed.

