

Abstract Submitted
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MHD Waves in a Flowing Partially Ionized Prominence Plasma with Oblique Magnetic Field NAGENDRA KUMAR, M.M.H. College, Ghaziabad — Prominences are dense and relatively cool partially ionized, magnetized plasma structures in solar corona. These structures display damped oscillations (MHD waves) and flows. We study the joint effects of ion-neutral collisions and flow on the behavior of MHD waves propagating in a partially ionized prominence plasma with oblique equilibrium magnetic field. We consider one-fluid MHD equations for partially ionized homogenous hydrogen prominence plasma permeated by inclined equilibrium magnetic field. Assuming small perturbations, dispersion relation for magnetoacoustic waves in an unbounded medium is derived and solved numerically. It is found that the presence of neutrals, equilibrium flow and oblique magnetic field in plasma modifies the dispersion characteristics and influences the damping of magnetoacoustic waves in prominence plasma. The coupling of oblique magnetic field and background flow along with ion-neutral collisions provides a more complete model for the damping of magnetosonic waves with the values of physical parameters observed in prominence oscillations.

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