

ION-NEUTRAL COLLISIONS IN PROMINENCE PLASMAS

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Since prominence material seems to be partially ionised is hardly recommended to evaluate the effect of the collisions between electrons, ions and neutrals.

Using a one-fluid MHD set of equations derived taking into account various effects in a partially ionised plasma (collisions between different species and Joule dissipation) we have studied the temporal damping of the magnetoacoustic waves in different configurations.

From the results of this work one can conclude that the presence of neutrals in the plasma only affects the fast wave in a relevant way. This wave attenuation arises mostly from collisions between ions and neutrals and is stronger when takes place in a medium with strong magnetic field, low density and low ionisation fraction.

Given the poor knowledge about the values of the density and ionisation fraction in prominences, it is hard to judge the importance of the physics of a partial ionisation in the damping of fast waves in solar prominences.