THERMALLY DAMPED LINEAR COMPRESSIONAL WAVES IN A 2D SOLAR CORONAL MODEL

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The high resolution observations (TRACE and SOHO) of waves in coronal structures have revealed a rapid damping of modes, sometimes their dumping length being of the same order as their wavelength. The rapid damping of modes in coronal loops permits us to derive values for magnetic field (intensity, structure) and transport coefficients (used in the study of heating mechanism). In this contribution we study the dumping of linear compressional waves considering a two-dimensional propagation in gravitationally stratified plasma in the presence of thermal conduction. By considering this 2D model, we show that the presence of an additional transversal motion has an important effect on the damping of the waves. For this theoretical model allows we conclude that the main effects influencing the damping of the waves are the degree of the transversal structuring and temperature.