

COUPLING OF WAVE AND ENERGY CONVERSION IN A SLOWLY VARYING NONUNIFORM DUSTY PLASMA

RITA CHAUDHURI*

Propagation of electromagnetic and acoustic waves through non-uniform plasma and their mutual coupling due to various factors has important application in space and astrophysical bodies, ionosphere, etc. In this paper the propagation of low frequency ion acoustic waves with dust acoustic waves and electromagnetic radiation through slowly varying unmagnetized dusty plasma have been studied. When low frequency ion acoustic wave is incident at the boundary of each layer of the varying plasma medium, a part will be transmitted consisting of three components of waves such as ion acoustic, dust acoustic and electromagnetic wave and other part will be reflected back consisting of these components stated above. The generation of the excited dust acoustic wave and electromagnetic wave were evaluated using W.K.B. approximation for slowly varying plasma parameters.
