

ABSTRACT

The dispersion relation of obliquely propagating electrostatic waves in electron-ion plasma modeled by anisotropic Cairn's distribution with nonthermal parameter Λ , is analyzed by using kinetic approach. In case of parallel propagation, the frequency of Langmuir wave and ion acoustic wave remains unchanged by nonthermal parameter while perpendicular propagating Bernstein mode is affected by this parameter. It is also noted that dispersion properties of both the low frequency and high frequency obliquely propagating waves affected by this parameters. The effect of temperature anisotropy and propagation angle on obliquely propagating waves are also studied. These results are applicable to aurora zone region.