

## **ABSTRACT**

Most theoretical studies of waves in plasmas are based on the assumption that the particles have Maxwellian velocity distributions. However, in natural space environment, plasmas have been observed to have a power law distribution, with an excess of super thermal particles. Some fundamental modes such as Langmuir waves, Dust Ion Acoustic waves and Dust-Acoustic waves have been studied by using non-Maxwellian distribution functions. The real frequency and the growth rate of these modes have been calculated by using kappa and generalized kappa (r-q) distribution and the results are compared with those of Maxwellian distribution. It is noted that for large values of 'q' with 'r=0' generalized (r-q) distribution reduces to Maxwellian. Similarly, for large values of kappa, the kappa distribution approaches to Maxwellian.