Title: KINETIC THEORY OF MAGNETOSONIC WAVES
Presented by: Amrutha

Abstract:

Kinetic dispersion relation of magnetosonic waves in magnetised plasma system with a single species Maxwellian distributed ions and electrons will be discussed. The dielectric tensor for the system is derived using kinetic theory starting from the Vlasov equation along with Maxwell equations. The complex dispersion relation of magnetosonic wave is derived using the geometry of the wave. The real frequency and growth rate of magnetosonic wave is calculated from the kinetic dispersion relation. The results are compared with the fluid approach in the absence of temperature anisotropy at appropriate limits.

References-

[1] Francis F. Chen, Introduction to plasma physics.
[2] D. G. Swanson, Plasma Waves.
[3] H. Naim, M. F. Bashir, J. Vranjes, and G. Murtaza (2015), Kinetic instability of drift magnetosonic wave in anisotropic low beta plasmas, Phys. Plasmas **22**, 062117.