

Parametric study of ion Bernstein waves in Lorentzian Plasma based on a kinetic simulation approach

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Ion Bernstein waves have been studied based on a fully kinetic simulation method, in which all plasma components are treated based on Vlasov equations. Electrons and ions are assumed to obey a kappa-type velocity distribution function. The influence of excess superthermality, in comparison with the Maxwellian distribution, is discussed. The relation of our simulation results with earlier theoretical results on kappa-distributed plasmas [1] is presented.

[1] F. Nsengiyumva, R. L. Mace, M. A. Hellberg, *Physics of Plasmas* **20**, 102107 (2013),