Abstract Submitted
for the DPP06 Meeting of
The American Physical Society

Ion-acoustic surface modes of a plasma with kappa distribution[1]

TAEJOON KIM, MYOUNG-JAE LEE, BK21 Program Division of Advanced Research and Education in Physics, Hanyang University, Seoul 133-791, Korea — Electrostatic surface waves propagating on the interface between a vacuum and a plasma with kappa distribution are kinetically derived by using the Vlasov-Maxwell equations. The plasma is semi-bounded, uniform, isotropic, collisionless, and unmagnetized. A specular reflection condition in which the charged particles undergo a mirror reflection is used for the boundary condition on a small perturbation distribution. It is shown that the ion-acoustic surface modes can be varied with the values of the spectral index κ, especially in the long wavelength limit.

[1]This work was supported in part by the research fund of Hanyang University (HY-2006-N) and in part by the 2nd stage Brain Korea 21 Program

Myoung
BK21 Program Division of Advanced Research and Education in Physics, Hanyang University, Seoul 133-79

Date submitted: 21 Jul 2006 Electronic form version 1.4