

Abstract Submitted  
for the MAR17 Meeting of  
The American Physical Society

**Dynamical Properties of Magnetized 2-Dimensional one component Plasma** GIRIJA DUBEY, Department of Physics and Engineering Physics, Fordham University, New York, NY10458, GODFREY GUMBS, Department of Physics, Hunter College of CUNY, New York, NY10065, VASSILIOS FESSATIDIS, Department of Physics and Engineering Physics, Fordham University, New York, NY10458 — Molecular dynamics simulation are used to examine the effect of a uniform perpendicular magnetic field on a two-dimensional interacting electron system. In this simulation we include the effect of the magnetic field classically through the Lorentz force. Both the Coulomb and the magnetic are included directly in the electron dynamics to study their combined effect on the dynamical and static properties of the 2D system. Results are presented for the velocity auto correlation function, the root mean square displacement, self correlation function and pair correlation function in the presence and absence of an external magnetic field. Our simulation results, clearly show that the external magnetic field has no effect on the static properties, but it affects the dynamics.

Girija Dubey  
Fordham University, New York, NY10458

Date submitted: 20 Nov 2016

Electronic form version 1.4