

Abstract Submitted  
for the MAR06 Meeting of  
The American Physical Society

**Studies of Glassy Dynamics in Ionomer melts** MONOJOY GOSWAMI, SANAT KUMAR, Rensselaer Polytechnic Institute, ANIKET BHATTACHARYA, University of Central Florida — In this work we investigate one of the challenging problems, the dynamics of ionomer aggregates using Molecular Dynamics simulations. Experimental results show that the glass transition temperature ( $T_g$ ), diffusion and relaxation mechanisms can be influenced dramatically by ion-incorporation or by changing temperature of the system e.g., increase in ion content raises the  $T_g$ . In this work we show the dynamical behavior of ionomer melts as it goes from liquid to glass/gel state. In the context of ionomers, we investigated the analogy between reversible gelation and the glass transition, and show that many of the beneficial properties of ionomers and difficulties in understanding them can be understood in this framework.

Monojoy Goswami  
Rensselaer Polytechnic Institute

Date submitted: 02 Dec 2005

Electronic form version 1.4