

MAR12-2011-005374

Abstract for an Invited Paper  
for the MAR12 Meeting of  
the American Physical Society

### **Characterizing Order in Glassy Systems**

DOV LEVINE, Technion - IIT

Crystals and quasicrystals can be characterized by an order that is a purely geometric property of an instantaneous configuration, independent of particle dynamics or interactions. Glasses, on the other hand, are ostensibly amorphous arrangements of particles. A natural and long-standing question has been whether they too have, albeit in a hidden way, some form of geometric order. I will examine a recent proposal for a coherence length that applies to systems which are typically characterized as amorphous, as well as to those that are conventionally ordered. The question of whether exotic order can arise in physical systems will be addressed.