

abstract

GEOMETRY AND MATERIALS SEMINAR

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

I describe a unified theoretical approach to represent exactly an n-point "canonical" correlation function from which one can obtain and compute any of the various types of correlation functions that determine the bulk properties of many-particle systems that model random media, liquids, glasses and solids, as well as the generalizations of these correlation functions. The key idea is the "r-neighborhood" notion that Bob MacPherson discussed during his recent lecture entitled "Measuring Shape With Homology." The wealth of spatial information contained in this n-point canonical correlation is far from understood. I will discuss some recent applications.