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Crazy Interdisciplinary Ideas Seminar Series

Parallel Tempering Monte Carlo Method for Random Frustrated Systems

Ka-Ming Tam, LSU - PLEASE RSVP FOR THIS EVENT

Postdoctoral Research Assistant, Physics and Astronomy

Johnston Hall 338
July 17, 2012 - 11:30 am

Abstract:

The parallel tempering method also called replica exchange method has shown to be an efficient method to shorten the thermalization time for Monte Carlo simulations. We will show that the graphics processing unit (GPU) which allows multi-threaded computing is perfectly suited for the parallel tempering method. We will discuss our recent works on the spin glass simulation with parallel tempering using GPU. The applications on polymers, optimization problems, and the generalization of parallel tempering method for the study of quantum spin glass problems will be discussed.

Assigned partner for this talk is J. Ramanujam, John E. and Beatrice L. Ritter Distinguished Professor of ECE.

RSVP to LeaAnne @ leaanne@cct.lsu.edu.

Speaker's Bio:

Ka-Ming Tam is a postdoctoral research assistant in the department of physics and astronomy at Louisiana State University. His research interest is to understand the properties of many body interacting systems. These include the strongly correlated fermion models and highly frustrated models.

This lecture has refreshments @ 11:30 am

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