PHYSICS AND ASTRONOMY
SEMINAR

Dr. Shunji Matsuura

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"Renyi Entropy and Entanglement Spectrum"

Abstract

Entanglement is a useful concept in quantum many-body systems introduced from the quantum information theory. In this talk, I will first explain how the entanglement spectrum, the eigenvalue distribution of the reduced density matrix, of CFT changes as a function of the conformal dimensions of scalar operators in it. Then I will introduce a generalization of the entanglement entropy by twisting boundary conditions. Physical meaning of it is to insert charged operators on the entangling surfaces. I will explain a possible gravitational dual of it.
Finally, I will explain the entanglement spectrum of quantum Hall systems.

Friday, April 05, 2013
11:00 a.m.
Clearihue Building
Room A206