
Seminar of Center for Quantum Science and Engineering

Speaker: Prof. Chyh-Hong Chern (陳智泓) (NTU, Physics Dept.)

Place: Rm 833, New Physics Building

Date & Time: October 21, 2008, 16:30-17:30

Title: Enhanced Quantum Charge Pumping and Ferroelectricity by Strong Substrate Disorder --- an Application to FeRAM.

Abstract:

One of the biggest challenges in the information industry is to make devices smaller with larger capacity by applying "full quantum mechanics". Traditional ferroelectric materials rely on the classical ionic motion to produce the polarization. In this talk, I will introduce a quantum mechanical proposal to enhance the polarization which might be applicable to FeRAM.

References:

S. Onoda, CHC, S. Murakami, Y. Ogimoto, N. Nagaosa, Phys. Rev. Lett. 97, 266807 (2006)

CHC, S. Onoda, S. Murakami, N. Nagaosa, Phys. Rev. B 76, 035334 (2007)