

WEEKLY CALENDAR

August 24, 2009

Departmental Colloquium

"Entanglement and discord in quantum systems"

3:40 PM, August 27, 2009
109 Nicholson Hall

A.R.P. Rau

Louisiana State University – Physics and Astronomy

Host: Juhan Frank

• *Refreshments served at 3:15 PM in 232 (Library) Nicholson Hall* •

In quantum computing and quantum information, entanglement has been much discussed but there are other types and measures of correlations between quantum systems. This Colloquium will introduce the fundamental ideas that distinguish quantum systems from classical ones and how they offer the hope of applications in quantum information. Superposition, entanglement, discord and inequalities will be discussed with applications.

Publications:

- "Superconducting and magnetotransport properties of ZnNi₃ microfibers and films," **A.B. Karki**, **Y.M. Xiong**, **D.P. Young**, and **P.W. Adams**, Phys. Rev. B79, 212508 (2009).
- "Crystal Growth, Structure, and Physical Properties of Ln(Cu, Ga)_(13-x) (Ln=La-Nd, Eu; x approximate to 0.2)," J. Y. Cho, E.L. Thomas, Y. Nambu, C. Capan, **A.B. Karki**, **D.P. Young**, K. Kuga, S. Nakatsuji, and J.Y. Chan, *Chemistry of Materials* 21, 3072 (2009).
- "Perturbed disks get shocked: Binary black hole merger effects on accretion disks," **Miguel Megevand**, Matthew Anderson, **Juhan Frank**, Eric W. Hirschmann, **Luis Lehner**, Steven L. Liebling, Patrick Motl, and David Neilsen, Phys. Rev. D80, 024012 (2009).
- "Diffeomorphism Invariance in Spherically Symmetric Loop Quantum Gravity," Rodolfo Gambini and **Jorge Pullin**, Adv. Sci. Lett. Vol. 2, No. 2, 2009.