

seminars



April 3-7, 2006

Monday, April 3, 2006

PHYSICS COLLOQUIUM

Richard Packard, University of California, Berkeley

“Superfluid weak links: physics and applications”

4:00 P.M., Ronald Geballe Auditorium, A-102, PAA

Reception at 3:45 P.M. in the lobby

Abstract: During the past few years arrays of nanometer sized apertures connecting reservoirs of superfluid helium have been found to exhibit properties described by the two Josephson equations. This talk will describe some of the experiments, in ^3He below 1mK, and in ^4He near 2K, which reveal the quantum nature of these weak links. Both of these superfluids exhibit Josephson oscillations, the so called “quantum whistle”. As temperature rises, ^4He weak link arrays morph continuously from a phase slip regime into a Josephson sine-like current-phase relation. It is still a mystery why these arrays exhibit quantum coherence over thousands of apertures. Sensitive matter wave interferometers/rotation sensors, analogous to the superconducting dc-squid, have been demonstrated in both ^3He and ^4He . These condensed-matter quantum interferometers may be used to examine some fundamental interactions in nature.

<http://www.physics.berkeley.edu/research/packard/>

Tuesday, April 4, 2006

Astrobiology Seminar

2:30 PM, Rm. A-118, PAA

Margaret Turnbull, Carnegie (DTM)

“Detecting Habitable Worlds and Life Beyond the Solar System”

Particle Theory Seminar

2:30 PM, Rm. C-421, PAT

Peter Skands, Femilab

“Frontiers of Collider Phenomenology”

Condensed Matter Seminar

4:00PM., Rm. C-421, PAT

Steven Dodge, Simon Fraser

“T-Ray tests of Fermi liquid theory”

Thursday, April 6, 2006

Astronomy Colloquium

4:00 PM., Rm. A-102, PAA

Anatoly Klypin, New Mexico State University

“Dynamics of Barred Galaxies”