

University of Washington • Department of Physics

PHYSICS COLLOQUIUM

Mark Strikman (Pennsylvania State University)

“Nucleon Close Encounters”

Monday, October 19, 2009

4:00 PM, Ronald Geballe Auditorium, Rm. A-102

Abstract: Novel processes probing the decay of nucleus after removal of a nucleon with momentum larger than Fermi momentum by hard probes finally proved unambiguous evidence for long sought presence of short- range correlations~(SRCs) in nuclei. Analysis of these processes in combination with the analysis of several other processes allows us to conclude that in heavy nuclei about 25% of nucleons have momenta above the Fermi momentum and predominantly belong to proton - neutron pairs.

The observed absolute probabilities and the isospin structure of two nucleon SRCs confirm the important role that tensor forces play in internucleon interactions. We find also that the presence of SRCs leads to a significantly faster neutrino cooling of cold neutron stars and plays an important role in the fragmentation of nuclei in heavy ion collisions. We also outline directions for future theoretical and experimental studies of the nucleonic and quark-gluon structure of two and three nucleon SRCs at high energy electron and hadron facilities.

All Week

INT Workshop

“Physics at a High Energy Electron Ion Collider”

For agenda, please see http://www.int.washington.edu/PROGRAMS/09-43w_program.pdf

Monday, October 19

Chemistry Seminar

4:00 PM, A-114, PAA

Beatriz Roldan Cuenya, University of Central Florida

“Micellar Metal Nanoparticles”

Tuesday, October 20

Particle Theory Seminar

2:30 PM, C-421, PAT

Mithat Unsal, Stanford Institute for Theoretical Physics

“Conformality or confinement: (IR)relevance of topological Excitations”

Astrobiology Seminar

2:30 PM, A-118, PAA

Steven Benner, The Foundation for Applied Molecular Evolution

“Understanding the Origin of Life”

CMA Seminar

4:00 PM, C-421, PAT

Dan Steck, University of Oregon

“Atomic One-Way Barriers and Quantum Measurements”

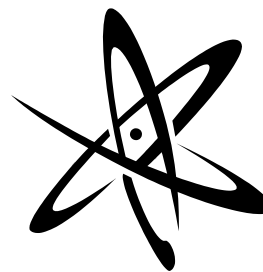
Astrobiology Public Talk

7:30 PM, 120, Kane Hall

Steven Benner, The Foundation for Applied Molecular Evolution

“The Origin of Life, the Universe, and the Scientific Method”

Seminars



Oct 19- 23

University of Washington • Department of Physics

Wednesday, October 21

INT Seminar

2:30 PM, C-421, PAT

Beatriz Roldan Cuenya, University of Central Florida

“Micellar Metal Nanoparticles”

Thursday, October 22

Energy Future Seminar

12:30 PM, A-118, PAA

Thomas Ackerman, UW Atmospheric Sciences

“Messing with Mother Nature: The Natural Energy Cycle, Green house Gases and Geoengineering”

Astronomy Colloquium

4:00 PM, A-102, PAA

Leo Girardi, INAF -- Astronomical Observatory of Padova

“Star Clusters with Dual Red Clumps”