

Hot Topics in Physics News

A lecture for the general public...

Monday, October 31, 2011

4:30 p.m.

Cardwell 102

Can Neutrinos Travel Faster than the Speed of Light?

Recent measurements suggest perhaps, yes!

Can the speed of light law be broken by particles? Recent time-of-flight measurements of neutrinos produced by an accelerator at CERN, in Geneva, Switzerland and detected 730 km away in Gran Sasso, Italy, show that the neutrinos reached Gran Sasso about 61 nanoseconds sooner than they would have if they were travelling at the speed of light. **Tim Bolton, Professor of Physics** and principal investigator of the K-State High Energy Physics group, will describe this very carefully performed measurement and the gutsy presentation of its results by the OPERA collaboration.

A Nobel Prize for the Accelerating Universe

Dark energy is the leading candidate for the mechanism that is responsible for causing the cosmological expansion to accelerate. The discovery of the accelerating cosmological expansion by Perlmutter, Riess, Schmidt, and collaborators in the late 1990's was recently recognized by the Nobel Foundation. **Bharat Ratra, Professor of Physics**, will describe the data which persuade cosmologists that (as yet undetected) dark energy and dark matter are by far the main components of the energy budget of the universe.