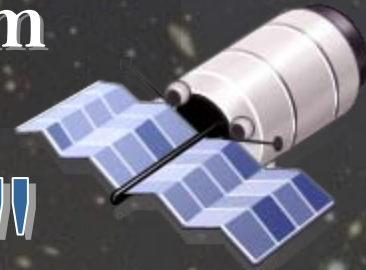


CU Physics Department Colloquium

Monday, October 6, 2008 4:10 PM 428 Pupin Hall



"Dark Matter in the Universe"

Katherine Freese, University of Michigan

Only 4% of the Universe is made of ordinary atoms; the rest consists of The Dark Side: Dark Matter and Dark Energy. This talk will examine the dark matter that comprises 95% of the mass of the Milky Way and all other galaxies. I will review the observational evidence for dark matter including rotation curves of galaxies, weak lensing, and the cosmic microwave background radiation. A great of excitement currently pervades this field because of current and upcoming experiments that can find the dark matter, via both direct and indirect techniques. The best motivated dark matter candidates are Weakly Interacting Massive Particles such as those motivated by supersymmetry. These particles have been powerful motivation for the LHC at CERN, the underground experiments such as XENON, satellites such as GLAST or PAMELA, and neutrino detectors such as ICECUBE at the South Pole. I will also discuss Dark Stars: the first stars to form in the universe may be powered by dark matter heating rather than by fusion (a new phase of stellar evolution) and may be detectable as well.

Meet the Speaker Session will follow at 5:30 PM in 705 Pupin Hall

Hosted by Elena Aprile

