McWilliams Center for Cosmology

Colloquium

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Wednesday, February 16, 2011
4:30 pm
DH A301D

"Clusters of Galaxies: An All-Purpose Laboratory for Cosmology and Astroparticle Physics"

Abstract:

The formation and evolution of large-scale structure encode basic information about our universe. Observations of the most massive collapsed structures in the universe, clusters of galaxies, are advancing our knowledge of a broad range of topics from studies of cosmology to particle physics to galaxy evolution. I will discuss three exciting applications of cluster observations:

1) The ability to derive precise constraints on cosmological parameters like the density of dark energy and its evolution,
2) The acceleration of relativistic particles in clusters and constraints on their cosmic ray content, and
3) Constraints on the particle properties of dark matter.