Astrophysics Seminar

EXAMINING GALAXY FORMATION AND EVOLUTION WITH THE MILKY WAY AND ITS SATELLITES

Dr. David Nidever, University of Michigan

Tuesday, November 27 ❖ 12:30 P.M. ❖ 184 NSH

How galaxies form and evolve remains one of the cornerstone questions in our understanding of the universe on grand scales. The Milky Way and its satellites are a local laboratory for studying the evolution and properties of galaxies of various masses in great detail. I will highlight some recent results from three projects that are providing new insights into the structure and formation history of the Magellanic Clouds and the Milky Way. First, an extensive study of the stellar periphery of the Magellanic Clouds reveals that they are much more extended than previously thought which has implications for structure formation on small scales. Second, I have undertaken a large-scale survey to map out the gaseous Magellanic Stream. These observations provide important constraints on the orbits and interaction history of the Magellanic Clouds with each other and the Milky Way. Finally, I will discuss SDSS-III/APOGEE, a near-infrared, high-resolution spectroscopic survey of ~100,000 stars in the Milky Way. With only the first year of data, APOGEE has already produced a number of important results especially in the Galactic bulge, with many more to come.

Notre Dame Science
Department of Physics