Spring Colloquium Series

Interacting Galaxies in a Multi-scale Hierarchical Universe

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Abstract:

For several decades, astronomers have studied the effect of close gravitational encounters on galaxies. By employing observatories and computer simulations, they have shown that interactions can alter the shapes of galaxies, trigger violent episodes of star formation, and activate their central supermassive black holes. In parallel, cosmologists have concentrated on the expansion of the universe and the formation of large scale structures (known as the cosmic web). In this picture, large structures are created by mergers of smaller ones. Traditionally, these two communities have worked separately . In this talk, I will show how galaxy interactions can bring together these two endeavors, by bridging the gap between large cosmological scales and small galactic scales. I will also highlight the various numerical methods employed in these lines of research, including hierarchical trees, friends-of-friends finders, and hydrodynamic solvers.

Wednesday, April 8, 1:05 - 1:50pm in 3-1637