PARTICLE PHYSICS SEMINAR SERIES

Dark Matter and small-scale structure

Prof. Quynh Lan Nguyen
Department of Physics
University of Notre Dame

Tuesday, November 27

4:00 pm - Rm 415 NSH

The Lambda CDM model has been successful in describing the large-scale structure of the universe. On small-scales, however, there remains a conflict between astrophysical observations and the predictions of the collision less cold DM paradigm. In this talk, I will discuss models for dark matter beyond the collisionless paradigm and their observable implications for structure on galactic and sub-galactic scales. I will show that simple particle physics models for interacting dark matter can provide an explanation of the small-scale structure observations including a resolution of the core cusp problem, the missing satellite problem, and the too big to fail problem.

PHYSICS