



PHYSICS AND ASTRONOMY SEMINAR

Dr. Nikita Blinov

Stanford Linear Accelerator Center

“Cosmology and Signals of Strongly Interacting Dark Sectors”

Abstract

Standard Model particles account for a small fraction of the matter content of the universe. If the remaining dark matter (DM) was ever in thermal equilibrium with itself or with the Standard Model (SM) sector, there must exist interactions that allowed its number density to be depleted to its present value. An interesting possibility for achieving this arises in scenarios where the DM is composed of “pions” of a QCD-like dark sector.

The leading number changing process in these theories is the annihilation of three pions into two pions, which heats the pion bath relative to the SM. Consistency with observations of large and small scale structure in the universe requires a non-zero coupling with SM states, suggesting a multitude of experimental probes. I will review the cosmological production of DM in these strongly interacting dark sectors and discuss the prospects for discovering them at fixed target experiments.

Tuesday April 4, 2017

2:30 p.m.

Elliot Building

Room 162