



LUDWIG-
MAXIMILIANS-
UNIVERSITÄT
MÜNCHEN

ARNOLD SOMMERFELD
CENTER FOR THEORETICAL PHYSICS



Sommerfeld Theory Colloquium

Dr. Alexander Vikman

New York University

Special ASC-PhD-Colloquium: Dark Matter via Many Copies of the Standard Model

I will discuss a recently proposed cosmological scenario based on the assumption that the Standard Model possesses a large number of copies. In this scenario we demonstrated that baryons in the hidden copies of the standard model can naturally account for the dark matter. The right abundance of the hidden-sector baryons and the correct spectrum of density perturbations are simultaneously generated during modulated reheating. We show that for the natural values of inflaton coupling constants, dictated by unitarity, the dark-matter abundance is predicted to be proportional to the ratio of observed cosmological parameters: the square of the amplitude of cosmological perturbations and the baryon-to-photon number ratio.

Thursday, 23th July 09, 10:30 h, Room 348 / 349, Theresienstr. 37 / III

Prof. V. Mukhanov