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CENTER FOR THEORETICAL PHYSICS



# Sommerfeld Theory Colloquium

Prof. Wilfried Buchmüller

DESY Hamburg

Cosmological Symmetry Breaking as Origin of the Hot Early Universe

The decay of a false vacuum of unbroken B-L, the difference of baryon and lepton number, is an intriguing and testable mechanism to generate the initial conditions of the hot early universe. If B-L is broken at the grand unification scale, the false vacuum phase yields hybrid inflation, ending in tachyonic preheating. The dynamics of the B-L breaking Higgs field and thermal processes produce an abundance of heavy neutrinos whose decays generate entropy, baryon asymmetry and dark matter.

Wednesday, 5 December 2012, 16:15h, Room A348/349, Theresienstr. 37/III

Prof. S. Hofmann