

Singlet dark matter effects on Higgs boson driven inflation

Saturday 18 July 2009 12:20 (15 minutes)

A minimal candidate for non-baryonic dark matter is provided by a single standard model singlet. The quantum mechanical effects of this singlet are explored in a model where the Higgs boson has a large non-minimal coupling to the Ricci scalar and plays the role of the inflaton. Imposition of the slow roll inflation cosmological constraints restricts the allowed values of the Higgs boson mass, its coupling to the dark matter and the dark matter self-coupling.

Primary author: Prof. LOVE, Sherwin (Purdue University)

Presenter: Prof. LOVE, Sherwin (Purdue University)

Session Classification: I. Cosmology and Gravitational Waves

Track Classification: Cosmology and Gravitational Waves