



Contribution ID: 62

Type: not specified

Mr. MARSH, David (University of Oxford): Cosmology and the String Axiverse

Thursday, 16 September 2010 17:45 (15 minutes)

It was noted in arXiv:0905.4720v2 [hep-th] that as a general feature “String theory suggests the simultaneous presence of many ultralight axions, possibly populating each decade of mass down to the Hubble scale 10-33eV”. Axion like particles (ALPs) with masses of between $m = 10^{-33} \text{eV}$ and $m=10^{-22} \text{eV}$ can affect the growth of structure in the Universe through the matter power spectrum. We compute these effects and present models for how they depend on the mass and fraction of the critical density in one ultra light ALP. Finally we briefly discuss possible observations.

Session Classification: 6 talks (Chair: Minos AXENIDES)