

Fundamental physics in the cosmos: The early, the large and the dark Universe



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**Fundamental physics in the cosmos:
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Primordial Black Holes and Gravitational waves from Axion Inflation

Thursday 28 September 2017 17:30 (18 minutes)

In my talk I discuss the phenomenology of models in which a pseudoscalar inflaton is coupled to some abelian gauge fields. The coupling between the inflaton and the gauge fields induces an instability in the theory which gives rise to a wide range of potentially observable signatures. In particular, I focus on the possibility of generating chiral gravitational waves in the range of direct gravitational wave detectors and primordial black holes which can account for a part (or all) of the dark matter observed in the Universe. The results of this analysis can be used to extract information on the microphysics of inflation.

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