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The end of the beginning: isocurvature modes in primordial black hole dark matter

Tuesday 8 September 2015 12:42 (1 minute)

Primordial black holes may have formed very early on during the radiation dominated era in the early universe, and are normally used to probe the small scale perturbations formed towards the end of inflation. I will present a method by which the large scale perturbations in the number density of primordial black holes may be used to place tight constraints on non-gaussianity if PBHs account for dark matter (DM). The presence of local-type non-gaussianity is known to have a significant effect on the abundance of primordial black holes, and modal coupling from the observed CMB scale modes can significantly alter the number density of PBHs that form within different regions of the universe, which appear as DM isocurvature modes.

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