Curvature and isocurvature perturbations in a three-fluid model of curvaton decay Sujata Gupta, Karim A. Malik and David Wands

Institute of Cosmology and Gravitation, University of Portsmouth, Portsmouth PO1 2EG, United Kingdom

Abstract: We study the evolution of the cosmological perturbations after inflation in curvaton models where the non-relativistic curvaton decays into both radiation and a cold dark matter component. We calculate the primordial curvature and correlated isocurvature perturbations inherited by the radiation and cold dark matter after the curvaton has decayed. We give the transfer coefficient in terms of the initial curvaton density relative to the curvaton decay rate.