Gravitational Probes of the Early Universe



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Cosmological trackers from perturbations

Compared to standard cosmology, string cosmologies motivate an extended period of kination after inflation that can be followed by a cosmological tracker and then an epoch of moduli domination. Conventionally, such trackers occur when there is a scalar field with an exponential potential and an additional fluid whose energy density balances the kinetic and potential energy density of the scalar field. In this talk we show that a tracker can also be reached even when the universe only contains a scalar field, with no additional fluid. In this case perturbations in the scalar field can effectively behave like a radiation fluid, leading to a radiation tracker at late times.

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