

Continuous spectrum on cosmological collider

The cosmological collider program is to find a new massive particle from non-Gaussianity of the curvature perturbation. In this work, we study the effects of a massive field with a “continuous” spectrum on the non-Gaussianity. This kind of continuous spectrum is motivated by several extra dimensional models. We find that in contrast to the usual case without the continuous spectrum, the amplitude of the inflationary three-point correlation function has a damping feature in the deep squeezed limit, which can be strong evidence for the continuous spectrum.

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