

Recent progress in cosmological collider physics

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Heavy particles can be produced on shell during inflation and leave distinct signals in the correlations of density fluctuations. These signals can be searched for in the future CMB/LSS/21cm observations. In this talk I will introduce the basics of this cosmological collider program. I will then describe some recent works along this direction with fun physics and visibly large signals, including seeing heavy neutrinos, probing CP violations, missing energies, and a scenario of Cosmological Higgs Collider where the high-energy Higgs interactions can be measured from the primordial non-Gaussianity.

Presenter: XIANYU, Zhong-Zhi (Harvard University)

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