

Theoretical Physics Seminar

Monday, December 2, 2019 / Pupin Hall Theory Center, 8th Floor / 2:10 PM

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"Signatures of the Early Universe in the BAO Spectrum"



Many aspects of the early universe are currently probed through the cosmic microwave background. Due to theoretical developments and an increase in survey sensitivity, these measurements can now be complemented by large-scale structure observations. In this talk, I will advocate the spectrum of baryon acoustic oscillations (BAO) as a new observable for early universe cosmology beyond its use as a standard ruler. I will present the first measurement of the cosmic neutrino background as imprinted in the BAO spectrum of galaxy clustering obtained by the Baryon Oscillation Spectroscopic Survey (BOSS). Moreover, I will discuss a novel search for oscillatory features of the primordial power spectrum in the same observable.