

Contribution ID: 23

Type: **not specified**

Cosmic Stasis from Primordial-Black-Hole Evaporation and Its Phenomenological Implications

Friday, June 23, 2023 10:00 AM (45 minutes)

Cosmic stasis is a phenomenon in which the abundances of multiple cosmological energy components — components such as matter, radiation, or vacuum energy — remain effectively constant despite the expansion of the universe. One mechanism which can give rise to an extended period of cosmic stasis is the evaporation of a population of primordial black holes (PBHs). In this talk, I review how PBH evaporation can lead to a stasis epoch and examine the observational consequences of such a modification to the cosmic expansion history. These include implications for inflationary observables, for the stochastic gravitational-wave background, and for the production of dark matter and dark radiation.

Primary author: THOMAS, Brooks (Lafayette College)

Co-authors: KIM, Doojin (Texas A&M University); HUANG, Fei (Weizmann Institute); DIENES, Keith R. (University of Arizona); HEURTIER, Lucien (IPPP, Durham); TAIT, Timothy M. P. (University of California, Irvine)

Presenter: THOMAS, Brooks (Lafayette College)