

Constraints on Cosmological Expansion With Type Ia Supernovae

Thursday 8 September 2022 09:30 (30 minutes)

I will discuss recent results from the Pantheon+ team on constraining multiple cosmological parameters with Type Ia supernovae. The Pantheon+ and SH0ES teams released likely their final major update to the measurement of the Hubble constant, which parameterizes the current expansion rate of the universe. The result is in 5sigma tension with constraints from the Cosmic Microwave Background. I will overview the new measurements on the local side, and discuss the extensive work on systematic covariances between these measurements. I will go over various past challenges to the local-side measurement and detail how our new analyses have addressed them. I will then discuss next steps and challenges, and particularly what we will learn from upcoming analyses like DES, and future ones like LSST and Roman.

Presenter: Prof. SCOLNIC, Daniel (Duke University)