



Contribution ID: 28

Type: **not specified**

The Hubble Constant in the Axi-Higgs Universe

Monday, 16 August 2021 11:00 (15 minutes)

The Λ CDM model provides an excellent fit to the CMB data. However, a statistically significant tension emerges when its determination of the Hubble constant H_0 is compared to the local distance-redshift measurements. The axi-Higgs model, which couples ultralight axions to the Higgs field, offers a specific variation of the Λ CDM model. It relaxes the H_0 tension as well as explains the ${}^7\text{Li}$ puzzle in Big-Bang nucleosynthesis, the S_8 tension with the weak-lensing data, and the observed isotropic cosmic birefringence in CMB. In this letter, we demonstrate how the H_0 and S_8 tensions can be resolved simultaneously, by correlating the axion impacts on the early and late universe.

Primary authors: LUU, Hoang Nhan (The Hong Kong University of Science and Technology); Prof. TYE, Henry; Dr LI, Lingfeng; QIU, Yucheng; Prof. LIU, Tao; LEO, Fung

Presenter: LUU, Hoang Nhan (The Hong Kong University of Science and Technology)

Session Classification: Monday