Contribution ID: **19** Type: **not specified**

Early Dark Energy Models and Cosmological Tensions

Wednesday, 9 July 2025 14:00 (30 minutes)

Observational data, such as the Hubble constant (H0) and cosmic birefringence, challenge the ΛCDM model. The Hubble tension indicates differing expansion rates between CMB measurements and direct observations of supernovae/Cepheid variables. Cosmic birefringence causes rotation in the CMB polarization plane. We briefly review on the Early Dark Energy Models (EDE) and explain known results that the Ultralight Axion-like model with n=3 alleviates Hubble tension but does not fit CMB EB mode observations satisfactorily. We reanalyse and emphasize our notice that the CMB EB angular power spectrum's shape is sensitive to cosmological parameters, which leads to the conclusion that the axion-like EDE model with n=3 aligns well with both cosmic birefringence and Hubble tension.

Presenter: LEE, Bum-Hoon

Session Classification: Plenary