

Revisiting an Early Dark Energy model and the Hubble Tension in a non-flat Universe

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The flat Λ CDM model of the Universe has started to falter due to recent and precise observations. One of the most promising models to resolve these problems is the axion-like Early Dark Energy (EDE) model. Our goal is to clarify how the EDE model and the shape of the Universe are simultaneously constrained with these recent datasets. We find that Early Dark Energy depends on shape only when using CMB data, but when BAO is added, curvature goes to zero which raises the Hubble constant but is still inconsistent with local data. Even when varying curvature, EDE by itself cannot explain theoretical and local measurements at the same time.

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