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## Observable imprints of dark energy inhomogeneities

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In light of large-scale anomalies in observations and tensions in important cosmological parameters like  $H_0$  and  $S_8$  of our Universe, we formulated possible dark energy inhomogeneities as the cosmological perturbations on superhorizon scales, sourced by some light scalar field. Based on this model, we discuss the possible impacts of the dark energy inhomogeneities on the anisotropic properties of observables, such as the luminosity distance, the matter power spectrum, and the cosmic microwave background (CMB) anisotropies.

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