

Revisiting the Hubble Constant with FRBs: Evidence for Redshift Evolution

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Fast Radio Bursts (FRBs) are millisecond radio transients with high dispersion measures, making them powerful tracers of ionized matter across cosmological distances. In this talk, I will present two complementary approaches, Bayesian analysis and machine learning, applied to a set of localized FRBs to rigorously test the consistency of the Λ CDM model at late cosmic epoch. Our results reveal a redshift evolution of the Hubble constant, a behavior that stands in contradiction to the core postulate standard cosmology. I will further show that this discrepancy can be resolved for alternate cosmological models. These findings suggest a fundamental inadequacy in the standard cosmological framework and necessitate a deeper revision of the theoretical underpinnings of cosmology to resolve the Hubble tension.

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