



Contribution ID: 49

Type: **Talk**

Testing non - metricity based gravity models against cosmological data.

Monday 30 June 2025 14:40 (25 minutes)

We investigate non-metricity-based gravity models through a model-independent framework, confronting them with recent observational data. Employing Bayesian statistical methods, we analyze late time background evolution using DESI-BAO and Supernovae data, and probe linear perturbations via the modified gravity functions, effective gravitational coupling and damping in the gravitational wave propagation. We derive constraints on the model parameters and systematically map several popular non-metricity gravity models onto our parameter space.

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Session Classification: Monday Parallel 2 - A101

Track Classification: Contributed talks