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Non-local gravity and comparison with observational datasets

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We study the cosmological predictions of two recently proposed non-local modifications of General Relativity. Both models have the same number of parameters as Λ CDM, with a mass parameter m replacing the cosmological constant. We implement the cosmological perturbations of the non-local models into a modification of the CLASS Boltzmann code, and we make a full comparison to CMB, BAO and supernova data. We find that the non-local models fit these datasets very well, at the same level as Λ CDM. For both non-local models parameter estimation using Planck+JLA+BAO data gives a value of H_0 slightly higher than in Λ CDM.

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