

Challenges to Cosmic Self-Acceleration in Modified Gravity from Gravitational Waves and Large-Scale Structure

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Scalar-tensor modifications of gravity have long been considered as an alternative explanation for the late-time accelerated expansion of our Universe. I will first show that a rigorous discrimination between acceleration from modified gravity and from a cosmological constant or dark energy is not possible with observations of the large-scale structure alone. I will then demonstrate how gravitational-wave observations break this dark degeneracy and how the combination of the two challenges the concept of cosmic acceleration from a genuine scalar-tensor modification of gravity.

Summary

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