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Inflation in Palatini quadratic gravity (and beyond)

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We study single-field slow-roll inflation embedded in a Palatini quadratic F(R) gravity, where the Einstein-Hilbert term has the wrong sign, apparently leading to repulsive gravity. This can be avoided as long as F'(R)and F''(R) stay positive. Surprisingly, consistency of the theory requires the Jordan frame inflaton potential to be unbounded from below. Even more surprisingly, this corresponds to an Einstein frame inflaton potential bounded from below and positive definite. We prove that such a quadratic gravity is a universal limit for all the Palatini F(R) that, for infinite curvature, diverge faster than R^2 .

Primary author: Dr RACIOPPI, Antonio
Co-author: DIOGUARDI, Christian
Presenter: Dr RACIOPPI, Antonio
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