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Constraints on hybrid metric-Palatini models from background evolution

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Two models of the hybrid metric-Palatini theory of gravitation are introduced. Their background evolution is explored, showing explicitly that one recovers standard General Relativity with an effective Cosmological Constant at late times. This happens because the Palatini Ricci scalar evolves towards and asymptotically settles at the minimum of its effective potential during cosmological evolution. We then use a combination of cosmic microwave background, Supernovae and baryonic accoustic oscillations background data to constrain the models' free parameters. For one model in particular, we are able to constrain the deviation from the gravitational constant G one can have at early times.

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