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On higher dimensional nonlinear massive gravity

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We will present main results of our recent study on higher dimensional scenarios of a ghost-free nonlinear massive gravity proposed by de Rham, Gabadadze, and Tolley (dRGT). In particular, a useful method, which is based on the Cayley-Hamilton theorem, to construct higher dimensional massive graviton terms will be presented. The constant-like behavior of massive graviton terms of five-dimensional dRGT theory will be shown to be valid for a number of physical metrics compatible with fiducial ones such as the Friedmann-Lemaitre-Robertson-Walker, Bianchi type I, and Schwarzschild-Tangherlini-(A)dS metrics. Finally, the corresponding cosmological solutions for the five-dimensional dRGT theory with effective cosmological constants derived from massive graviton terms will be mentioned.

Summary

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Track Classification: Inflation and alternatives, Strings, Cosmology