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Implications of f(Q) Gravity on Cosmological Parameters

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In this presentation, we investigate the impact of f(Q) gravity on key cosmological parameters, extending beyond the framework of General Relativity (GR) by incorporating non-metricity. We analyze the modified Friedmann equations derived from this theory to understand the evolution of the Hubble parameter, energy density, pressure, and the equation of state parameter. Our findings suggest that f(Q) gravity shows promise as an alternative to GR, particularly in explaining the accelerated expansion of the universe. By solving these modified Friedmann equations, we present a comprehensive set of differential equations that describe the cosmological evolution within the FLRW model under f(Q) gravity. These results pave the way for further exploration of modified gravity theories and their potential to address unresolved challenges in cosmology.

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