

Teleparallel scalar-tensor gravity through cosmological dynamical systems and Its relevance to H0 Tension

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“Scalar-tensor theories offer the prospect of explaining the cosmological evolution of the Universe through an effective description of dark energy as a quantity with a non-trivial evolution. In this work, we investigate this feature of scalar-tensor

theories in the teleparallel gravity context. Teleparallel gravity is a novel description of geometric gravity as a torsional- rather than curvature-based quantity which presents a new foundational base for gravity. Our investigation is centered on the impact of a nontrivial input from the kinetic term of the scalar field. We consider a number of model settings in the context of the dynamical system to reveal their evolutionary behaviour. We determine the critical points of these systems and discuss their dynamics. We have also discussed the possible approach to solve H0 tension problem using dynamical system analysis in teleparallel scalar tensor gravity.”

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