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f(R) oscillating universes

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The purpose of this paper is to investigate the oscillatory behavior of the universe through the Schrödinger equation and a modified gravitational background described by the theory of f(R) gravity. Motivation for this stems from the proven periodic structure of the universe when described within the scope of the general theory of relativity. A further analysis of different f(R) toy models and the equation of state associated with each epoch of interest results in different behaviors for the wave-function of the universe.

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