Title: Examining the Fate of Our Universe with the Friedmann Acceleration Equation
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Long throughout the history of cosmological studies, astronomers believed the universe to be static. However, in 1922, Soviet mathematician Alexander Friedmann derived Einstein's Field equation and came up with an equation, now known as the Friedmann equation, which models an expanding universe. In this paper, I will apply variations of parameters to the Friedmann equation and present three different theoretical models of the universe and their respective fate under accelerating expansion using a Python visualization script that I build. The Friedmann equation, which is a first-order differential equation that offers the most accurate model of our present understanding of the universe. Aside from discussing the models and fates of our universe, I will provide a detailed explanation of the equation as well as paint a picture of the historical context in which the equation arises, with key players such as Alexander Friedmann, Albert Einstein, and Edwin Hubble contributing to the successful modelling of the equation.

Works Cited

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