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【376】 Testing gravity through the distortion of time

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In 1998, observations of distant stellar explosions provided evidence that the expansion of the Universe is accelerating. The cosmology community has struggled to find an explanation for this ever since, postulating the existence of a form of “dark energy” driving the expansion. However, the lack of theoretical understanding of its properties motivates the search for other explanations, most notably the possibility that our theory of gravity, General Relativity, should be modified on cosmological scales. In my work, I illustrate how this hypothesis can be tested from the observed distribution of galaxies, focusing on measurements of the distortion of time that will be provided by the coming generation of galaxy surveys.

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