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Probing String-inspired Quadratic Gravity with Gravitational Waves

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One natural extension of General Relativity is to introduce a quadratic-curvature correction to the action that is coupled to a scalar field. Such quadratic gravity includes Einstein-dilaton Gauss-Bonnet and dynamical Chern-Simons gravity that are motivated by certain types of string theory. The scalar field induces additional interaction and radiation to compact binary systems. In this talk, I will explain how well one can probe quadratic gravity with current and future gravitational wave observations.

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