General Relativity and Quantum Cosmology

Testing Modified Gravity with Gravitational Wave Astronomy

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The emergent area of gravitational wave astronomy promises to provide revolutionary discoveries in the areas of astrophysics, cosmology, and fundamental physics. One of the most exciting possibilities is to use gravitational-wave observations to test alternative theories of gravity. In this contribution we describe how to use observations of extreme-mass-ratio inspirals by the future Laser Interferometer Space Antenna to test a particular class of theories: Chern-Simons modified gravity.

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