

Abstract Submitted
for the APR18 Meeting of
The American Physical Society

Constraining Einstein-Æther Theory with Eccentric Gravitational Waves ALEXANDER SAFFER, NICOLAS YUNES, Montana State Univ
— With the recent detection of gravitational waves from a variety of compact binaries, new ways to test modified gravity are quickly being developed. One interesting possibility is to constrain the violation of Lorentz symmetry in the gravitational sector, an effect that is inherent in Einstein-Æther theory through a dynamical æther field that selects a preferred direction in spacetime. Developing eccentric waveform models in this theory will allow us to test its predictions against observations. In this talk, I will discuss how we have approached the development of these waveforms and what the results will mean for the future of Einstein-Æther theory.

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Date submitted: 05 Jan 2018

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