Abstract Submitted
for the APR21 Meeting of
The American Physical Society

Toward Merger and Ringdown Waveforms for Modified Gravity Theories GABRIEL BONILLA, Cornell University — At sufficiently high energy scales, corrections to GR will appear that favor alternate theories of gravity. The parameterized post-Einsteinian (ppE) formalism provides a framework for modifying frequency domain GR waveforms into ppE-corrected waveforms that account for leading PN order deviations predicted by a beyond-GR theory. These corrections are computed assuming a quasicircular inspiral, making the applicable only in the inspiral regime. We examine various procedures that can be used to extend the inspiral correction into the merger and ringdown regimes with minimal assumptions, as well as the effect of these assumptions on parameter estimation efforts making use of ppE waveforms as matched filter templates.

Gabriel Bonilla
Cornell University

Date submitted: 09 Jan 2021 Electronic form version 1.4