Abstract Submitted
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The Effect of Spin Precession and Amplitude Corrections in Waveform Approximants on The Accuracy of Gravitational-Wave Searches[1] SAEED MIRSHEKARI, RICCARDO STURANI, ICTP-SAIFR, LIGO COLLABORATION — As a part of reviewing post-Newtonian waveform approximants, we investigate the effect of (A) spin precession, (B) amplitude corrections, and (C) waveform bias on the modeling accuracy of gravitational waves emitted by compact binary systems including black-holes and neutron-stars. In particular, we focus on studying faithfulness, effectualness, and parameter-bias with the presence/absence of above mentioned factors (individually and in combination with each other) in both low mass ($3M_\odot < M_{total} < 20M_\odot$) and high mass ($20M_\odot < M_{total} < 400M_\odot$) regimes. We consider both inspiral-only (spin-aligned TaylorF2 and SpinTaylorT4) and full inspiral-merger-ringdown (IMRPhenomP, SEOBNRv2 and PhenSpinTaylorRD) waveform approximants along with Advanced LIGO and Advanced Virgo detector characteristics. Preliminary results will be presented.

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