Abstract

LIGO-Virgo Scientific Collaboration plans to employ computationally efficient Inspiral-Merger-Ringdown waveform families to search for gravitational waves from compact binaries coalescing along quasi-eccentric orbits in their data sets. Ready-to-use Fourier domain eccentric inspiral templates is a crucial ingredient while constructing such families. I present our on-going effort to compute amplitude corrected analytic Fourier domain gravitational waveforms that incorporates effects of periastron advance and gravitational-wave emission. Additionally, a brief description of our on-going efforts search for GW burst signals, associated with compact binaries in relativistic hyperbolic and parabolic orbits will be presented.