

Abstract Submitted  
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**Accurate analytical waveforms of coalescing binary black holes YI**

PAN, University of Maryland — I will present analytical waveforms of gravitational-wave radiation from coalescing binary black holes generated within the analytical effective-one-body approach. These waveforms agree, within numerical errors, with waveforms generated by highly accurate numerical relativity simulations. Furthermore, in the test-particle limit, these waveforms agree with the extreme mass ratio inspiral waveforms generated by numerically solving the Teukolsky equations. I will show how this analytical approach extracts non-perturbative information contained in the numerical simulations, models the full coalescence phase, and provides a sufficiently accurate bank of waveforms to be used in matched-filtering based searches of coalescing binary black holes with ground-based gravitational-wave detectors.

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