Comparison of numerical relativity simulations with post-Newtonian expansions, Pade and EOB models ABDUL HUSSEIN MROUE, Cornell University, SAUL TEUKOLSKY, LAWRENCE KIDDER, HARALD PFEIFFER, MICHAEL BOYLE, MARK SCHEEL, ALESSANDRA BUONANNO, YI PAN, CORNELL TEAM, CALTECH TEAM, U. MARYLAND TEAM — In order to detect GWs and measure the physical parameters of coalescing black hole binaries, a large bank of templates is required to accurately represent the GW waveforms emitted by these binaries. Since Numerical Relativity cannot densely sample the parameter space, different analytical methods are developed to compute these waveforms. We compare our recent numerical gravitational waveforms with those from post-Newtonian formulae, their various Pade transforms, and the different Effective-One-Body models.

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