Application of the third RIT binary black hole simulations catalog to parameter estimation of gravitational waves signals from the LIGO-Virgo O1/O2 observational runs CARLOS LOUSTO, JAMES HEALY, RICHARD O'SHAUGHNESSY, JACOB LANGE, Rochester Institute of Technology — Using exclusively the 777 full numerical waveforms of the third binary black hole RIT catalog, we reanalyze the ten black hole merger signals reported in LIGO/Virgos O1/O2 observation runs. We obtain binary parameters, extrinsic parameters, and the remnant properties of these gravitational waves events which are consistent with, but not identical to, previously presented results. We have also analyzed three additional events (GW170121, GW170304, GW170727) reported by Venumadhav, Zackay, Roulet, Dai, and Zaldarriaga [Phys. Rev. D 101, 083030 (2020)] and found closely matching parameters. We finally assess the accuracy of our waveforms with convergence studies applied to O1/O2 events and found them adequate for current estimation of parameters.

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