Abstract Submitted
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Simulation-based gravitational-wave population inference with GWTC2[1] KAZE W.K. WONG, VISHAL BAIBHAV, EMANUELE BERTI, Johns Hopkins University, KATELYN BREIVIK, THOMAS CALLISTER, Flatiron Institute, GABERIELE FRANCIOLINI, Universit de Genve, KYLE KREMER, California Institute of Technology, VALERIO DE LUCA, Universit de Genve, PAOLO PANI, Sapienza Universit di Roma, ANTONIO RIOTTO, Universit de Genve — The recent release of the second Gravitational-Wave Transient Catalog (GWTC-2) has increased significantly the number of known events, enabling unprecedented constraints on formation models of compact binaries. By analyzing the newest catalogue of gravitational-wave events with a deep-learning enhanced hierarchical Bayesian modelling framework and population synthesis simulations, we present constraints on astrophysical quantities for various black-hole binary formation channels using a population of events observed by the ground-based gravitational-wave detector network, including binaries formed in isolation, binaries formed in globular clusters and primordial black holes.

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