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Confronting Numerical Relativity With Nature: A model-independent characterization of binary black-hole systems in LIGO KARAN JANI, JAMES CLARK, DEIRDRE SHOEMAKER, Georgia Institute of Technolgy, LIGO SCIENTIFIC COLLABORATION, VIRGO COLLABORATION — Stellar and Intermediate mass binary black hole systems (10-1000 solar masses) are likely to be among the strongest sources of gravitational wave detection in Advanced LIGO. In this talk we discuss the prospects for the detection and characterization of these extreme astrophysical system using robust, morphology-independent analysis techniques. In particular, we demonstrate how numerical relativity simulations of black hole collisions may be combined with waveform reconstructions to constrain properties of a binary black-hole system using only exact solutions from general relativity and any potential gravitational wave signal in the data.

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