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Inference of the compact binary population and merger rate from transient gravitational wave observations DANIEL WYSOCKI, RICHARD O'SHAUGHNESSY, ERNEST FOKOUE, Rochester Inst of Tech — In this talk, we present a comparison of methods for estimating the rate density as a function of parameters for compact binary coalescences (CBC's) observed by LIGO. We focus on weakly-parametric and non-parametric methods, including Gaussian mixture models, Gaussian processes, and classical infinite dimensional regularized Bayesian techniques. We assess the performance of these methods on constructed synthetic, plausible populations of CBC's. We discuss the scaling of these methods to higher dimensions and appropriate measures of performance.

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