

Abstract Submitted
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Exploring the impact of Advanced LIGO transient noise on the estimation of astrophysical parameters of binary black hole coalescences
JESSICA MCIVER, Caltech, LIGO SCIENTIFIC COLLABORATION — The Advanced LIGO detectors have unprecedented sensitivity to the spacetime strain induced by gravitational waves, but the interferometer data are non-stationary. Instrumental and environmental transient noise artifacts, or ‘glitches’, occur frequently in the data and can mimic transient gravitational wave signals, including compact binary coalescences (CBCs). In addition to limiting the sensitivity of gravitational wave searches, in cases when astrophysical signals occur during or near periods of transient noise, this noise can also contaminate the estimation of the astrophysical parameters of CBC sources, such as spin, mass, and sky location. I will show the rate and common morphologies of transient noise in LIGO data and illustrate the impact of common classes of transient noise on the parameter estimation of observable binary black hole merger signals.

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