

Abstract Submitted
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Using waveform complexity in the search for transient gravitational wave events MARGARET MILLHOUSE, Montana State University, TYSON LITTENBERG, University of Alabama at Huntsville, NEIL CORNISH, Montana State University, JONAH KANNER, California Institute of Technology, LIGO COLLABORATION — Searches for short, unmodeled gravitational waves using ground based interferometers are impacted by transient noise artifacts, or “glitches”, which can be difficult to distinguish from gravitational waves of astrophysical origin. The BayesWave algorithm presents a novel method of distinguishing glitches from short duration astrophysical signals by using waveform complexity to rank candidate events. In addition to identifying signals and glitches, BayesWave also provides robust waveform reconstruction with minimal assumptions. I will showcase the algorithm’s glitch rejection capabilities, and discuss the performance of BayesWave during Advanced LIGO’s first observational run.

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