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A coherent consistency test for gravitational-wave bursts PATRICK SUTTON, SHOUROV CHATTERJI, ALBERT LAZZARINI, California Institute of Technology, ANTONY SEARLE, Australian National University, LEO STEIN, California Institute of Technology, MASSIMO TINTO, Jet Propulsion Laboratory — A common feature of gravitational-wave bursts is that their waveforms are unknown or poorly modelled. This lack of knowledge could make it difficult to distinguish between real signals and coincidental noise fluctuations in gravitationalwave detectors. We present a multi-detector coherent analysis test that can distinguish unmodelled gravitational-wave bursts from interferometer 'glitches', without requiring any a priori knowledge of the gravitational-wave signal. We demonstrate this algorithm using a population of simulated core-collapse supernova waveforms and simulated noise glitches.

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