

Abstract Submitted
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Externally triggered searches of gravitational-wave bursts with Tikhonov regularization technique MALIK RAKHMANOV¹, Pennsylvania State University, SOUMYA MOHANTY, KAZUHIRO HAYAMA, University of Texas, Brownsville, SHANTANU DESAI, Pennsylvania State University, TIFFANY SUMMERSCALES, Andrews University, LEE SAMUEL FINN, Pennsylvania State University — Searches for gravitational waves with arbitrary waveforms benefit from combining data from several detectors in a coherent way. An algorithm for such coherent detection, based on the Tikhonov regularization scheme, is presented here. In the absence of prior knowledge of the signal, the regularization functional is uniform with regard to the location of the source in the sky and the frequency of the anticipated signal. Such searches for gravitational-wave bursts can be greatly facilitated by coincidences with electro-magnetic observations, such as those provided by the X-ray and gamma-ray detectors. These externally-triggered network searches for bursts will be conducted using the data from several interferometric gravitational wave detectors, including LIGO, GEO and Virgo. The results from trial runs of this algorithm on simulated data are described.

¹(will present the talk)

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