

Abstract Submitted
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Maximum likelihood methods for detecting the stochastic gravitational wave background and its anisotropies ARIANNA RENZINI, caltech — Current gravitational-wave detectors are only able to resolve a tiny fraction of all gravitational-wave signals in the Universe; the collection of unresolved signals is referred to as the gravitational-wave background and is expected to be a stochastic signal, hard to distinguish from detector noise. In this talk, I will present maximum likelihood estimators for this background and its anisotropies on the sky, tailored to different observatories such as LIGO and LISA. I will showcase the importance of having a network of multiple detectors for background characterisation, in particular in the case of anisotropic backgrounds. Finally, I will present mock-data tests for LISA, detailing the expected sensitivity and sky resolution.

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