

Abstract Submitted
for the APR20 Meeting of
The American Physical Society

Testing GR with Stochastic Gravitational Wave Backgrounds

ALEXANDER SAFFER, KENT YAGI, Univ of Virginia — The stochastic gravitational wave background (GWB) is the collective signal from many individual, unresolved sources. By studying this background, we may obtain information about the statistical nature of the sources of gravitational radiation. We focus on a GWB of binary black hole mergers and attempt to place constraints on particular deviations from general relativity (GR) at given post-Newtonian orders. By placing limits on the magnitude of GR deviations, we determine whether or not the study of the GWB is useful in probing gravitational theories beyond GR. In this talk, I will present the results of a parameter estimation study which includes both GR and non-GR variables for ground-based observations. We find that while the GWB can indeed be used to test GR, individual resolved detections can place stronger bounds when using ground-based detectors.

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Date submitted: 07 Jan 2020

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