

Abstract Submitted
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Pulsar Timing Observations of Black Hole Binaries NEIL CORNISH, Montana State University, ALBERTO SESANA, Albert Einstein Institute, Golm — Advances in the precision timing of pulse arrival times from a growing network of millisecond pulsars may allow for the detection of nano Hz frequency gravitational waves by the end of the decade. One of the most promising targets for Pulsar Timing Arrays (PTAs) is the background from binary super massive black holes. Traditionally this background has been thought of as being isotropic and stochastic, but more recently it has been realized that the signal will be dominated by a handful of bright sources, leading to a highly anisotropic and deterministic signal. We discuss how this impacts the standard cross-correlation analysis design to detect stochastic signals, and consider alternative detection techniques that are better suited to detecting the expected signal.

Neil Cornish
Montana State University

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