

Abstract Submitted
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Joint search for isolated sources and an unresolved confusion background in pulsar timing array data BENCE BECSY, NEIL CORNISH, eXtreme Gravity Institute, Department of Physics, Montana State University, Bozeman — Supermassive black hole binaries are the most promising source of gravitational-waves in the frequency band accessible to pulsar timing arrays. Most of these binaries will be too distant to detect individually, but together they will form an approximately stochastic background that can be detected by measuring the correlation pattern induced between pairs of pulsars. A small number of nearby and especially massive systems may stand out from this background and be detected individually. Analyses have previously been developed to search for stochastic signals and isolated signals separately. Here we present **BayesHopper**, an algorithm capable of jointly searching for both signal components simultaneously using trans-dimensional Bayesian inference.

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