

Abstract Submitted
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Placing limits on anisotropy in the stochastic gravitational wave background with the 9-year NANOGrav data set¹ CHIARA MINGARELLI, California Institute of Technology, NANOGrAV COLLABORATION — Pulsar Timing Arrays are sensitive to gravitational waves in the 1nHz - 100 nHz frequency band. In this very low-frequency regime, we expect to measure a stochastic gravitational wave background generated by the incoherent superposition of gravitational waves from e.g. the cosmic population of supermassive black hole binaries. Previous limits on this stochastic background have assumed an isotropic distribution of the gravitation wave power—here we relax this assumption and look for power in higher order modes using a spherical harmonic decomposition of the GW power on the sky. We discuss the potential and limitations of our method.

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