

Abstract Submitted
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The NANOGrav 12.5-year Data Set: Results from the search for a stochastic gravitational wave background¹ JOSEPH SIMON, Jet Propulsion Lab, NANOGrav PHYSICS FRONTIERS CENTER COLLABORATION — Pulsar timing arrays are galactic-scale low-frequency gravitational wave observatories sensitive to the nanohertz frequency band. The primary source of gravitational radiation in this regime is expected to be a stochastic background, formed from the cosmic population of supermassive black hole binaries. In this talk, I will discuss the current state-of-the-art detection approaches to searching for a gravitational wave background in pulsar timing data and present the results obtained by analyzing the 12.5-year data release from the North American Observatory for Gravitational Waves (NANOGrav). Additionally, I will discuss some advanced noise modeling techniques which have improved our sensitivity.

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