Abstract Submitted
for the SES16 Meeting of
The American Physical Society

Pulsar Timing Arrays Beyond the Isotropic Stochastic GW Background[1] DUSTIN MADISON, National Radio Astronomy Observatory, NANOGRAV COLLABORATION — Long-standing models for the nanohertz gravitational wave (GW) stochastic background are increasingly in tension with current pulsar timing array (PTA) constraints. As such, supermassive black hole binaries may be driven to merger more quickly than previously thought, eccentricity may play an integral role in binary black hole evolution, and unconventional sources of GWs may prove key to an initial GW detection by PTAs. I will discuss developing efforts to detect a more astrophysically realistic stochastic background and recent efforts to detect localized burst-like sources of GWs using PTAs. I will discuss near-future prospects for improving PTA sensitivity to GWs.

[1]NRAO Jansky Fellowship

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Date submitted: 07 Oct 2016 Electronic form version 1.4