

Abstract Submitted  
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**Detecting Nanohertz Gravitational Waves with Pulsars** BRIAN CHRISTY, Franklin & Marshall Coll, NANOGrav COLLABORATION<sup>1</sup> — The detection of nanohertz gravitational waves will uniquely expand our understanding of galaxy evolution. Source candidates in this frequency band include supermassive black hole binaries (SMBHBs), either as a stochastic background or individual bright sources above this background. Measurement of these signals would provide details to outstanding questions on merger rates and inspiral physics of SMBHB's. This detection is possible with Pulsar Timing Arrays (PTAs) that search for perturbations in pulse arrival times across a collection of precisely timed millisecond pulsars. I will highlight the work of the North American Nanohertz Observatory for Gravitational Waves (NANOGrav), where improvements to instrumentation are substantially increasing sensitivity and current limits already constrain some models for galaxy evolution.

<sup>1</sup>The North American Nanohertz Observatory for Gravitational Waves

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