

Abstract Submitted  
for the APR15 Meeting of  
The American Physical Society

**Towards Multimessenger Pulsar Astronomy: A Search for Periodic Gravitational Waves from Fermi-LAT Unassociated Sources in LIGO S6 Data** J.R. SANDERS, University of Michigan, LIGO-VIRGO COLLABORATION — Gravitational waves from rotating neutron stars are interesting sources for advanced ground-based gravitational wave detectors. Observations of these signals have the potential to advance many ongoing problems in pulsar astronomy, including the discovery of radio-quiet pulsars. I discuss ongoing work on a fully coherent directed search for continuous gravitational waves in LIGO S6 data, targeting a subset of unassociated sources from the Fermi 2FGL catalog selected by spectral characteristics and high galactic latitude. This search demonstrates a framework for using gravitational wave searches of unidentified gamma-ray objects, including sources with coarse position uncertainty, to detect new pulsars in our galaxy.

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Date submitted: 09 Jan 2015

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