Abstract Submitted
for the APR17 Meeting of
The American Physical Society

Putting BayesWave to the Test: Can BayesWave Detect Eccentric Black-Hole Binary Sources? BELINDA CHEESEBORO, PAUL BAKER, SEAN MCWILLIAMS, AMBER LENON, West Virginia Univ, LIGO COLLABORATION — The mission of the Advanced Laser Interferometer Gravitational-Wave Observatory (aLIGO) is to detect gravitational waves that are caused by the interaction of massive gravitating bodies such as coalescing black holes and neutron stars. Due to the detection of gravitational waves in the past year, we want to take it a step further and detect gravitational waves from eccentric black hole binary (eBBH) sources. Therefore, we propose BayesWave as the main algorithm for detecting and analyzing eBBH sources. We will explore the efficacy of using BayesWave to detect eBBH sources and discuss future modifications to BayesWave to improve these searches.

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Date submitted: 29 Sep 2016 Electronic form version 1.4