Abstract Submitted
for the BPNMC18 Meeting of
The American Physical Society

Parameter Estimation of Gravitational Waves of Binary Neutron Star Mergers Using Lalinference[1] ERICK LEON, California State University Fullerton, LIGO COLLABORATION — The first gravitational waves emitted by a neutron star binary coalescence was detected on August 17, 2017. Being able to estimate the parameters of such a system including mass, and tidal deformation is an important factor in understanding the physics of neutron stars. Lalinference is a parameter estimation tool used to estimate parameters from gravitational wave signals. By using other computational methods to create fake gravitational wave signals we can test the capability of Lalinference to predict the correct parameters of these gravitational waves for some given noise spectrum. In my project, I ran Lalinference parameter estimation on several fake gravitational wave signals and compared the predicted parameters with the ones used to create the fake signals. This research can be used to predict the scientific capabilities of future observing runs for advanced interferometers.

[1]Grants and funding provided by: Louis Stokes Alliances for Minority Participation (LSAMP) and Partnerships in Astronomy Astrophysics Research and Education (PAARE).

Erick Leon
California State University Fullerton

Date submitted: 16 Oct 2018 Electronic form version 1.4