Abstract Submitted
for the TSF19 Meeting of
The American Physical Society

Fitting and analysis of radio afterglow light curves from GW sources ARVIND BALASUBRAMANIAN, Texas Tech University — Gravitational Wave observations have given us yet another way to understand the cosmos. Gravitational wave events are often accompanied by emission from across the electromagnetic (EM) spectrum. EM follow up observations help in pushing the boundaries of our understanding of gravitational physics, nucleosynthesis and cosmology. GW170817 is the first detection of gravitational waves and light from the merger of two neutron stars. Radio observations, in particular, and analysis of the broad-band afterglow of GW170817 in general, led to verification of the predictions of various jet models. These models are parametrized by a large number of correlated parameters. Fitting them requires a robust tool like affine invariant Markov Chain Monte Carlo (MCMC) simulations, that can be used to obtain the best fit parameters and the errors associated with them. This poster presents preliminary testing of a dedicated MCMC code, and some ongoing work to model the expected very-late-time radio emission of GW170817 arising from the interaction between the neutron-rich ejecta and the surrounding interstellar medium.

Arvind Balasubramanian
Texas Tech University

Date submitted: 27 Sep 2019 Electronic form version 1.4