

Abstract Submitted
for the TSS21 Meeting of
The American Physical Society

A Search for GW170817-like Nearby GRBs in the *Swift*/BAT Sample AVERY COOK, Texas Tech University — Following the remarkable neutron star binary merger known as GW170817, much research has been conducted to uncover its nature and investigate whether its nearby location presents an opportunity to unveil similar events. GW170817 was accompanied by a kilonova, plus a delayed radio afterglow related to an off-axis jet that differs from those previously observed in gamma-ray bursts (GRBs). It has thus been suggested that such delayed emission may have been missed in previously known GRBs. In this context, I will present the results of an analysis aimed at determining whether previously detected GRBs, lacking accurate localization and an early afterglow detection, could have originated from events similar to GW170817. Specifically, I will discuss the results of a late-time radio follow-up campaign of a subset of short GRBs in the *Swift*/BAT sample. The goal of this campaign, carried out with the Jansky Very Large Array (VLA), is to determine whether any of the GRBs in our sample is associated with delayed radio emission. I will show how such late-time emission, using its time variability and spectral energy distribution, can be used to constrain whether nearby ejecta similar to GW170817 were produced in any of the considered GRBs.

Avery Cook
Texas Tech University

Date submitted: 09 Mar 2021

Electronic form version 1.4