

Abstract Submitted
for the NWS19 Meeting of
The American Physical Society

Data Quality Studies for the Laser Interferometer Gravitational-wave Observatory (LIGO) SUKHJIT KAUR, University of Washington, Bothell — Massive objects in space such as black holes and neutron stars interacting with each other result in gravitational waves. Gravitational waves are curvature in the fabric of space-time and carry important information about their source. Though Albert Einstein first theorized the existence of gravitational waves, it was not until September 2015 that the first gravitational wave detection was made by the Laser Interferometer Gravitational-wave Observatory (LIGO). Since the first detection, many more successful detections have been made providing brand new insight to the universe. The LIGO interferometers are highly sensitive and can be disturbed by unwanted interference resulting in possibly contaminated data. Short duration transient noise events are known as glitches and are limiting to the sensitivity of the LIGO searches for gravitational-wave signals. One of many ways LIGO scientists remedy this problem is using a citizen-science project called ‘Gravity Spy’ launched on the ‘Zooniverse’ platform. This project uses the participation of the general public to classify glitches in order to find the source of the glitch and thus rid the experiment of the noise. This all results in a cleaner data set that allows LIGO scientists to make confident and successful detections.

Sukhjit Kaur
University of Washington, Bothell

Date submitted: 12 Apr 2019

Electronic form version 1.4