



Contribution ID: 559

Type: **Poster**

The updated DESGW processing pipeline for the third LIGO-VIRGO observing season

Thursday, 7 November 2019 16:15 (15 minutes)

The DESGW group seeks to identify electromagnetic counterparts of gravitational wave events seen by the LIGO-VIRGO network, such as those expected from binary neutron star mergers or neutron star- black hole mergers. DESGW was active throughout the first two LIGO observing seasons, following up several binary black hole mergers and the first binary neutron star merger, GW170817. We describe the modifications to the observing strategy generation and image processing pipeline between the second (ending in August 2017) and third (beginning in April 2019) LIGO observing seasons. The modifications include a more robust observing strategy generator, further parallelization of the image reduction software and difference imaging processing pipeline, data transfer streamlining, and a public webpage listing identified counterpart candidates that updates in real time. Taken together, the additional parallelization steps enable us to identify potential electromagnetic counterparts within fully calibrated search images in less than one hour, compared to the 3-5 hours it would typically take during the first two seasons. These performance improvements are critical to the entire EM followup community, as rapid identification (or rejection) of candidates enables detailed spectroscopic followup by multiple instruments as soon as possible, leading to more information about the environment immediately following such gravitational wave events.

Consider for promotion

No

Author: HERNER, Kenneth Richard (Fermi National Accelerator Laboratory (US))

Presenter: HERNER, Kenneth Richard (Fermi National Accelerator Laboratory (US))

Session Classification: Posters

Track Classification: Track 1 –Online and Real-time Computing