



Contribution ID: 48

Type: **not specified**

The Laser Interferometer Gravitational-wave Observatory LIGO: Principles and Upgrades

Wednesday, 20 June 2018 10:45 (30 minutes)

The first detections of gravitational waves from colliding black holes and neutron stars in 2015 and 2017 have started the field of gravitational-wave astronomy.

In this talk I will introduce some principles of the instruments making these detections possible, focusing on the US-based LIGO detectors.

These exquisitely sensitive laser interferometers combine elements from different fields of physics and engineering, such as mechanics, optics, electronics, material science, feedback control, electronics, and simulations.

I will also report on current upgrades and some future plans for LIGO.

Primary author: Prof. GROTE, Hartmut (Cardiff University)

Presenter: Prof. GROTE, Hartmut (Cardiff University)

Session Classification: Multi-messenger Astronomy & Gravitational Waves