Contribution ID: **46** Type: **not specified**

Stochastic GW background from compact binary mergers

Friday 2 June 2023 15:00 (10 minutes)

Stochastic gravitational-wave backgrounds (SGWB) derive from the superposition of numerous individually unresolved gravitational-wave (GW) signals. In this talk, I will present a detailed modelization of the SGWB from compact binary mergers. I will discuss the use of population synthesis models to estimate the expected rate and properties of binary mergers for different types of compact objects such as neutron stars and black holes. I will also show how these predictions are used to calculate the resulting SGWB amplitude and spectral shape, taking into account the redshift evolution of the binary merger rate and the gravitational-wave strain from individual mergers. Finally I will discuss the prospects for detecting the SGWB with current and future gravitational-wave detectors.

Presenter: LEHOUCQ, Léonard (Institut d'Astrophysique de Paris)

Session Classification: Student talks