



Contribution ID: 102

Type: **not specified**

J. Calderón Bustillo: Measuring the direction of a black-hole gravitational recoil

Monday 19 December 2022 14:45 (15 minutes)

Gravitational waves (GWs) carry linear momentum. As a consequence, due to the asymmetry of the GW emission, the remnant of a black hole of a black-hole merger can inherit a recoil speed, known as “kick”, which can exceed the scape velocity of the host environment. The magnitude of a black-hole kick has fundamental implications in black-hole formation and while its direction is key to understand the plausibility of potential multi-messenger observations of black-hole mergers. In this talk I will report the first measurement of the recoil direction of a remnant black-hole (that of GW190412). In addition, I will discuss the features of GW190412 that enable this measurements and potential applications to multi-messenger observations of black-hole mergers in, e.g., active galactic nuclei.

Session Classification: Session 3 A