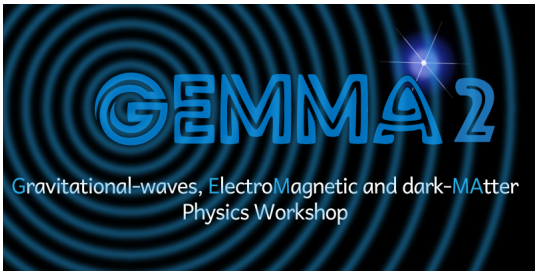

Contribution ID: **46** Type: **Invited Talk**

Continuous gravitational wave searches and recent results

Direct detection of gravitational waves has become a powerful tool in multi-messenger astrophysics. Beyond short-duration events like inspirals and mergers of compact objects, longer-duration signals known as continuous gravitational waves are possible. Traditionally linked to neutron star astrophysics and their dense interiors, continuous gravitational waves are now also being explored in searches for dark matter, primordial black holes, and exotic particles. Their long duration enables new studies and tests of theories of gravity. This talk summarizes the recent results from the LIGOVirgoKAGRA collaboration, the current status of data analysis, and related theoretical models. We highlight how recent observations are probing relevant astrophysical scenarios and discuss the potential for the ongoing observing run to detect continuous gravitational waves.

Primary author: BEJGER, Michal Stanislaw (Istituto Nazionale di Fisica Nucleare)

Session Classification: Gravitational Waves

Track Classification: Gravitational waves