

SciNeGHE 2016 High-energy gamma-ray experiments at the dawn of gravitational wave astronomy



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Gravitational waves transients : Sources and Searches

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Gravitational waves transient signals can be classified broadly as compact binary coalescence (CBC) and generic short and long duration transients (bursts), the search techniques/algorithms for them differs on various levels and hence the background and sensitivity for both these searches are quite different, however even when they target different sources, they are not completely mutually exclusive of each other, this means the same source can be captured by both CBC and bursts searches but not always. In the present talk I will present a broad overview of these searches and discuss the expectations and prospects of these searches in the era of advanced interferometers. Moreover VIRGO detector in Italy is expected to join soon the LIGO detectors in the U.S. improving the sky localisation of the further observed signals, so coming time is exciting for multi-messenger astronomy with gravitational waves.

Summary

We are living in the era of gravitational waves astronomy, the two events of binary black hole mergers detected by the LIGO is already starting to fill up the gravitational waves sky. VIRGO detector in Italy is expected soon to join two LIGOs and hence improving the sky localisation of the observed event. These are exciting time for multi messenger astronomy as we expect more of such sources and hopefully some surprises to be seen in era of advanced detectors.

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