

The 2nd PANDA Symposium on Multimessenger Astronomy - Jets and Shocks in the Universe

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Gravitational Waves

Monday, 22 April 2013 16:45 (50 minutes)

In this talk I describe the advanced ground-based gravitational-wave detector projects (LIGO in the USA, VIRGO in Italy, GEO in Germany, KAGRA in Japan, LIGO in India). I review the status and capabilities of the detectors, and outline the different types of sources which we hope to be able to detect, and the corresponding signal characteristics and analysis pipelines. We expect that the first direct detections of gravitational waves (perhaps around 2017) will be from the coalescence and merger of binary neutron star pairs. Such events may also be accompanied by electromagnetic gamma-ray bursts. I will also outline our hopes for the longer-term future of the field, both for ground- and space-based detectors.

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