



CURRENT STATUS OF GRAVITATIONAL WAVE ASTRONOMY WITH LIGO AND VIRGO

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Astrophysics is living a revolutionary epoch: new techniques, instruments and theories are providing for the first time truthful and coherent answers to great questions that humanity has been pursuing for centuries. Gravitational waves -ripples in the fabric of space-time- are now the new messengers that will allow us to open a new window onto the cosmos that could revolutionize our understanding of the Universe. The Advanced Laser Interferometer Gravitational-wave Observatory (LIGO) has been making ground breaking discoveries since the moment it turned on in 2015. From the first two observing runs, eleven detections of gravitational waves have been published by the LIGO and Virgo Scientific Collaborations: ten from merging black hole systems and one from merging neutron stars. This talk will describe the status of the now-firmly-established field of gravitational wave astronomy, give some highlights of the current discoveries, and describe the role of our group.