

[GW-01] Current Status of Gravitational Wave Research

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Gravitational waves predicted by the general relativity almost 100 years ago have been implicated indirectly only by astrophysical observations such as the orbital evolution of binary pulsars. The advanced detectors of gravitational waves will become operational in a few years and they are expected to make direct detection of gravitational wave signal coming from merging of binaries composed of neutron stars or stellar mass black holes from external galaxies. Korean Gravitational Wave Group (KGWG) is contributing to the possible detection through the data analysis of LIGO and Virgo. We summarize the perspectives of the gravitational wave research and the impacts of the detection in the near future in astronomy and astrophysics.

[GW-02] Numerical Relativity and Gravitational Waves

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Numerical relativity is one of the crucial tools to theoretically probe systems of strong gravity such as compact binary coalescences and gravitational collapses. Understandings of such systems and gravitational wave forms extracted have been used for implementing data analysis pipelines on ground based gravitational wave observation experiments such as LIGO, Virgo and KGRA currently undergoing. In this talk, brief reviews and perspectives will be given for numerical studies on binary black holes.