

Searching for the Stochastic Gravitational Wave Background with Advanced LIGO and Advanced Virgo

Recent discoveries by Advanced LIGO and Advanced Virgo of gravitational waves produced in mergers of binary black hole and binary neutron star systems have enabled more robust estimates of the stochastic gravitational wave background arising from the superposition of contributions from all such systems in the universe. First estimates of the potential anisotropy in this background have also been made. I will discuss the results of the recent searches for the isotropic and anisotropic stochastic background with Advanced LIGO and Advanced Virgo data, as well as prospects for potential discovery of this background in upcoming runs of these detectors. I will also discuss possibilities for correlating these measurements with electromagnetic tracers of matter structure in the universe.