

Update on GW standard siren cosmology

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The era of gravitational-wave cosmology has finally begun. The multi-messenger observations of GW170817 allowed it to be used as a standard siren, providing a direct measurement of the Hubble constant calibrated by the theory of general relativity. In addition to this “bright siren” approach, a “dark siren” approach has been implemented utilizing statistical correlations with host galaxies to constrain cosmological parameters. More recently, a “spectral siren” approach has been developed, which uses observed features in the statistical distribution of GW sources to constrain redshift and infer cosmology. We will summarize recent results and discuss future prospects.

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