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Statistical measurement of the Hubble constant from compact binary coalescences without electromagnetic counterparts

The binary neutron star event GW170817 with its optical counterpart led to the first standard siren measurement of the Hubble constant H_0 . This was possible due to a direct estimate of the luminosity distance from the gravitational-wave strain and a measurement of the redshift from the transient electromagnetic counterpart. Even in the absence of such a counterpart, we can statistically correlate the luminosity distance with redshifts present in a galaxy catalog to measure H_0 . However, we need to correct for certain systematic effects coming from finite sensitivity of the detectors and incompleteness of the galaxy catalogs. I discuss such a method for the estimation of H_0 which is independent of any cosmic distance ladder.

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