

GWxLSS: chasing the progenitors of merging binary black holes.

Cross-correlations between galaxy catalogs and gravitational wave maps can provide useful information regarding open questions in both cosmology and astrophysics. The detection of binary black hole mergers through gravitational waves by the LIGO-Virgo instrument sparked the discussion on whether they have astrophysical or primordial origin. According to a model whose popularity revived after the first gravitational waves detections, primordial black holes of stellar mass could constitute a fraction of the dark matter. The possibility to infer the nature of the binary black hole progenitors can be studied through GWxLSS cross-correlations, whose formalism can be applied in several contexts.

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