

Astrophysical Uncertainties in the Gravitational-Wave Background from Stellar-Mass Compact Binary Coalescences

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The astrophysical Stochastic gravitational-wave backgrounds (SGWB) results from the superposition of numerous individually unresolved gravitational-wave (GW) signals. In this talk, I will present different ways of modelling the populations of stellar-mass compact binary coalescence (CBC) that source this background. I will discuss the use of population synthesis models to estimate the expected rate and properties of CBC. I will also show how these predictions are used to calculate the resulting SGWB amplitude and spectral shape, and what are the main astrophysical uncertainties on this background. Finally, I will discuss the prospects for detecting the SGWB with current and future gravitational-wave detectors.

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