

# The impact of approximations and uncertainties on binary black hole waveform models

Mark Hannam, Edward Fauchon-Jones

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The approximations inherent in models of binary black hole waveforms (in PN theory, NR simulations, and phenomenological waveform families) have not yet limited the accuracy of GW measurements. This may change in the next few years. The observations of stronger signals will bring into play sub-dominant physical effects that are not currently modelled, or are not modelled accurately enough. We illustrate when some of these effects may start to bias measurements with these models, and make estimates of the level of accuracy required as GW detector sensitivities improve.