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## Reconstructing phase transitions from future LISA data

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A gravitational wave background from a first order phase transition at the electroweak scale may be observable with future detectors such as LISA. While the Standard Model does not predict a first order phase transition, these occur in many BSM scenarios. Therefore, detecting a stochastic gravitational wave background could point to new physics, while a null detection could constrain or even exclude many BSM models. However, recovering the physical parameters of an underlying phase transition from a possible signal at LISA is not straightforward, partly due to other possible sources of a stochastic gravitational wave background, such as a population of white dwarf binaries. In this talk I will present our recent advances in reconstructing the phase transition parameters from mock LISA data using parameterised templates as an approximation to a more complete physical model, which greatly speeds up the process. I will also discuss how we hope to include more realistic noise sources like white dwarf binaries in our mock LISA data.

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