

NewCompStar School 2016 - “Neutron stars: gravitational physics theory and observations”



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Gravitational wave source modeling

Wednesday 7 September 2016 09:00 (1h 30m)

Gravitational Wave source Modelling 1: Basic formalism

In this lecture I will present the so-called quadrupole formalism for describing the gravitational wave emission from a neutron star. Within this formalism, General Relativity is treated as a correction to Newtonian physics. I will sketch out the key formulae, and show how they lead to some well known results for the gravitational wave amplitude and luminosity of a source. Insights and formulae from this formalism provide a great deal of our intuition as to how compact objects emit gravitational waves, and are made use of in other lectures in this school.

Summary

Presenter: Dr JONES, I. (University of Southampton)