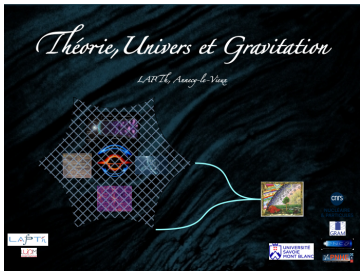


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# Tidal contributions to the gravitational waveform amplitude to the second-and-a-half post-newtonian order

*jeudi 7 novembre 2024 15:00 (20 minutes)*

The study of tidal effects between compact objects such as neutron stars is particularly promising to better understand their physics. Including these effects in our waveform models could allow us to probe their internal structure, but also possibly to distinguish signals coming from black holes, neutron stars or even more exotic objects. This will be of paramount importance when interpreting the multiple signals expected with the arrival of third-generation gravitational wave detectors.
The tidal interaction affects both the dynamics and the gravitational wave emission processes of compact binaries resulting in a change in the orbital phase and the gravitational wave amplitude that are directly observable.
In this talk, I will present how we completed the computation of gravitational waveform amplitude modes using the post-Newtonian-multipolar-post-Minkowskian formalism with an order of accuracy of 2.5PN and wrote them in form suitable for effective-one-body template building.

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