CIDMA CENTRO DE I&D EM MATEMÁTICA E APLICAÇÕES
CENTER FOR R&D IN MATHEMATICS AND APPLICATIONS

universidade de aveiro

Gravitational Geometry and Dynamics Group Seminar

Wed., Dec. 6th, 2023, at 11h00.

Room: 11.2.21 and **Zoom ID:** 989 6252 0928 (*Password: contact graposo@ua.pt*)

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Tidal effects in compact object binaries and why they matter

The field of gravitational wave astronomy is allowing us to study the nature of compact objects in binary systems through their gravitational wave emission. Namely, the tidal deformability of such objects, encoded in their Tidal Love Numbers (TLNs) gives us a window into their composition and the physics behind them. However, the increasing accuracy of future gravitational wave detectors will likewise require a more accurate modeling of the emitted waveforms, and therefore a more detailed study of TLNs. In my talk I will present recent advances on how the spin of a compact object affects its TLNs. I will also discuss the impact these spin-tidal effects will have on future gravitational wave detections, focusing on neutron star binaries, as well as other (dynamical) tidal effects and their possible relevance in the near future.

More about Gr@v at: *gravitation.web.ua.pt*

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