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Neutron Star Dynamical Love Numbers & Black hole tidal deformability

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Black holes are among the simplest objects to describe with a theory of gravity. To achieve a better understanding of their structure, physicists study how they behave when deformed by an external object.

In this presentation, I will first review the definition of black holes in General Relativity and their main properties . I will then briefly describe how their response to external perturbations can be studied by computing tidal coefficients, the Love numbers. Without going into too much technical details, I will provide an overview of the main results concerning black hole perturbations and explain why they are important for future gravitational wave astronomy.

I will try to avoid technical details to keep this presentation understandable by a broad audience

Speaker information

PhD 2nd year

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