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G. Raposo: Elastic stars and compactness bounds

Monday 19 December 2022 12:00 (15 minutes)

In this presentation I will introduce a rigorous and general framework to study systematically self- gravitating elastic materials within general relativity. I will introduce two classes of elastic equations of state that can be used to explore properties of exotic compact objects. I will discuss the general effects of elasticity on the structure of compact objects, including an analysis on the compactness bounds of compact objects. I will conclude the presentation by discussing how relativistic elasticity can be useful to address issues such as the neutron star structure and the modeling of ultracompact objects.

Session Classification: Session 2