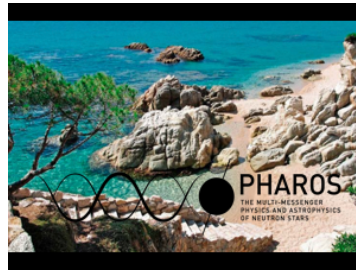


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Core-crust transition and properties in neutron stars

A precise determination of the core-crust transition is necessary when modelling neutron stars for astrophysical purposes.

The core-crust transition in this work is studied with finite-range nuclear interactions using the dynamical approach for detecting the instability of the matter in the core against density perturbations.

Also, we analyze the correlation of the transition properties,

such as the density and pressure, with the

slope of the symmetry energy associated to the nuclear equation of state. Finally, knowing the core-crust transition point for these finite-range forces,

we obtain their relation between the neutron star masses and radii,

predictions of the mass and thickness of the neutron star crust, as well results for the tidal deformability in binary neutron stars.

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