

PHAROS Conference 2020: The multi-messenger physics and astrophysics of neutron stars



Contribution ID: 45

Type: Poster

Role of the symmetry energy and the neutron-matter stiffness on the tidal deformability of a neutron star with unified equations of state

The role of the symmetry energy and the neutron-matter stiffness on the tidal deformability of a cold nonaccreted neutron star was studied using a set of unified equations of state. Based on the nuclear energy-density functional theory, these equations of state provide a thermodynamically consistent treatment of all regions of the star and were calculated using functionals that were precision fitted to experimental and theoretical nuclear data. Predictions will be compared to constraints inferred from the recent detection of the gravitational-wave signal GW170817 from a binary neutron-star merger and from observations of the electromagnetic counterparts.

Author: PEROT, Loïc

Co-authors: CHAMEL, Nicolas (Institut d'Astronomie et d'Astrophysique, Université Libre de Bruxelles); SOURIE, Aurélien

Presenter: PEROT, Loïc

Session Classification: Poster Session

Track Classification: Posters