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Implication of Rapid Rotation on Neutron Star structure

Content :

Observations indicate that Neutron Stars can be very fast rotors. On one hand, these fast rotations not only constrain the nuclear equation of state, but also has impact on the star structure as well. In the present work, within the relativistic framework we construct rapidly rotating neutron stars and predict the respective Kepler frequencies that they can sustain. The results shall be highlighted along with the structural deformation that the neutron stars would undergo. The deformations and the angular momentum aspects of these stars are also important with regard to our search for gravitational waves. Compact stars such as neutron stars are perceived to be an ideal candidates to emit Gravitational waves.

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