

Abstract Submitted  
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**Quadrupole Moments of Rotating Neutron Stars** SWAPNIL TRI-  
PATHI, University of Wisconsin — A rotating stars oblateness creates a deformation  
in the gravitational field outside the star, which is measured by the quadrupole-  
moment tensor. In this work we make corrections to certain previous calculations  
of quadrupole moments of rotating neutron stars in the literature. We propose an  
EOS (equation of state) independent empirical relation for the quadrupole moment  
of rotating neutron stars. A quadrupole moment maximizing EOS is proposed and  
a formula found for the limit set by causality on the quadrupole moment of a star  
of fixed gravitational mass.

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