

Abstract Submitted  
for the APR15 Meeting of  
The American Physical Society

**Neutron Star Universality Near the Maximum Mass** SHARON MORSINK, JASON FEDOROWICH, Univ of Alberta — Rotating neutron stars have relationships between some properties (such as moment of inertia,  $I$ , Love number and quadrupole moment,  $Q$ ) that are approximately independent of the equation of state (EOS). These universal I-Love-Q relations and other similar universal properties have a number of potentially useful astrophysical applications. It is also important to investigate the underlying causes for the existence of these relations. Some of a neutron star's properties (such as the star's rotational deformation) have a dependence on how "close" the star is to the maximum allowed mass. In this talk we will illustrate how the rotating neutron star's properties for different EOS approach the same similar solution as the maximum mass star is approached.

Sharon Morsink  
Univ of Alberta

Date submitted: 09 Jan 2015

Electronic form version 1.4