

Abstract Submitted
for the APR05 Meeting of
The American Physical Society

Constraining the equation of state of hyperon stars with astronomical observations MOHIT NAYYAR, BENJAMIN LACKEY, BENJAMIN OWEN, Pennsylvania State University — Glendenning and Moszkowski (1991; PRL 67, 2414) constrained the parameters of a relativistic mean field equation of state (EOS) with hyperons by fitting them to observed neutron star masses and hypernuclear energy levels. However, they did not consistently include measurements from hypernuclear experiments. We determine the correct constraints and thereby find that the softest EOS is inconsistent with observed neutron star masses. We also find that a gravitational redshift of 0.35 (Cottam et al 2002; Nature 420, 51) rules out all but the stiffest hyperonic EOS.

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Date submitted: 18 Feb 2005

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