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Nuclear limits on gravitational waves from neutron stars PLAMEN KRASTEV, San Diego State University, TAMU-Commerce, AARON WORLEY, University of Denver, TAMU-Commerce, BAO-AN LI, Texas A&M University-Commerce — Neutron stars are among the possible sources emitting gravitational waves (GWs) with a strain-amplitude dependent upon star's quadrupole moment, rotational frequency, and distance from detector. We show that the gravitational wave strain amplitude depends strongly on the equation of state of neutron-rich stellar matter. Applying an equation of state with symmetry energy constrained by recent nuclear laboratory data, we set an upper limit on the strain amplitude of GWs produced by neutron stars. Implications will be discussed.

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