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## Symmetry Energy From Experiment, Theory and Observation

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Nuclear mass measurements and neutron matter theory tightly constrain the parameters  $J$ ,  $L$  and  $K_{\text{sym}}$  of the nuclear symmetry energy. Corroboration can be found from measurements of the neutron skin thicknesses and dipole polarizabilities of neutron-rich nuclei, as well as astrophysical measurements of the neutron star radius. The recent PREX and CREX neutron skin measurements, while apparently independently predicting disparate results for these parameters, nuclear interaction models that best fit both measurements suggest values commensurate with those from neutron matter calculations, recent NICER neutron star radius measurements, and GW170817 tidal deformability measurements. A detailed correlation analysis of saturation and symmetry energy properties, nuclear structure observables and typical-mass neutron star observables predicted by hundreds of published nuclear force models is presented.

**Author:** LATTIMER, JAMES

**Presenter:** LATTIMER, JAMES