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Experimental studies of the nuclear Symmetry Energy GIACOMO BONASERA, Texas A&M University — Nuclei, are quantum Fermi systems that exhibit many interesting features that depend on temperature and density. At zero temperature and ground-state density, nuclei are charged quantum drops; that is, they have Fermi motion due to their quantum nature, and the nucleons interact through both a short range attractive force and a long range Coulomb force. The goal of this proposal is to study the dependance of the nuclear Hamiltonian on the Symmetry Energy, in other words the difference in energy seen by the protons and the neutrons. This term is very important for the sability of neutron rich nuclei and neutron stars.

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