Equation of State for low density nuclear matter JUTRI TARUNA, BRADLEY A FUTCH, JORGE PIEKAREWICZ, Florida State University — Neutron-rich matter at subnuclear densities—present in core-collapse supernovae and the crust of neutron stars—displays fascinating complex structures, such as spherical, slablike, and rodlike shapes. The equation of state and the spin-dependent, two-body correlation function are computed via semi-classical Monte-Carlo simulations that incorporate a momentum-dependent two-body potential to simulate Pauli correlations.