Configuration Interactions Constrained by Energy Density Functionals[1] ALEX BROWN, ANGELO SIGNORACCI, Michigan State University, MORTEN HJORTH-JENSEN, University of Oslo — A new method for constructing a Hamiltonian for configuration interaction calculations with constraints to energies of spherical configurations obtained with energy-density-functional (EDF) methods is presented. This results in a unified model that reproduces the EDF binding-energy results in the limit of single-Slater determinants, but can also be used for obtaining energy spectra and correlation energies with renormalized nucleon-nucleon interactions. The three-body and/or density-dependent terms that are necessary for good nuclear saturation properties are contained in the EDF. Applications to binding energies and spectra in the region of ^{208}Pb are given.

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