Symmetry restoration for mixed-spin pairing states in heavy nuclei ERMAL RRAPAJ, ALEXANDROS GEZERLIS, University of Guelph, AUGUSTO MACCHIAVELLI, Lawrence Berkeley National Laboratory — Hatree-Fock Bogoliubov (HFB) mean field theory is the method of choice for describing heavy nuclei and has been very useful in nuclear physics over the decades. However, the wave-function obtained usually does not respect the symmetries of the Hamiltonian it is based upon. In this talk, I will focus on the ground state wave-function obtained by the gradient descent method and recent developments in projecting onto eigenstates of fixed particle number, isospin, and nuclear spin. The isotopes under investigation will be selected nuclei with A = 132, which exhibit spin-singlet, spin-triplet, and mixed-spin pairing. This work is meant to serve as a guide for future experimental searches of mixed-spin pairing in heavy nuclei.

Ermal Rrapaj
University of Guelph

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