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WITHDRAWN - Symmetry restoration in mixed-spin paired heavy nuclei

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The nature of the nuclear pairing condensates in heavy nuclei, specifically neutron-proton (spin-triplet), versus identical-particle (spin-singlet) pairing has been an active area of research for quite some time.

In this work, we probe three candidates that should display spin-triplet, spin-singlet, and mixed-spin pairing. Using theoretical approaches such as the gradient method and symmetry restoration techniques, we find the ground state of these nuclei in Hartree-Fock-Bogoliubov theory and compute ground state to ground state pair-transfer amplitudes to neighboring isotopes while simultaneously projecting to specific particle number and nuclear spin values.

We identify specific reactions for future experimental research that could shed light on spin-triplet and mixed-spin pairing.

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