

Abstract Submitted
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Ultrahigh-spin spectroscopy
of $^{168,171,172}\text{Hf}$ ¹ W.C. MA, S. MUKHOPADHYAY, R.B. YADAV, Y.C. ZHANG,
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ZHU, ANL — Strongly deformed bands have been observed up to spins 50 - 60
in $^{168,171,172}\text{Hf}$ from Gammasphere experiments. We identified triaxial and prolate
strongly deformed (TSD and SD) structures, as well as shapes with slightly enhanced
deformation with respect to normal deformed states, associated with different bands.
Cranking calculations agree in general with observations in mass 160 region, but failed
to reproduce the SD bands in ^{172}Hf and heavier Hf isotopes. Wobbling excitations,
an experimental finger print of triaxial nuclei, have been established in neighboring
Lu and Ta (odd-Z) isotopes, but not in any Hf (even-Z) isotopes which are located
in the center of the predicted island of TSD structures. Possible reasons will be
discussed.

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