

Abstract Submitted
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Power of combining large statistics γ -ray coincidences and mass and Z identified low statistics γ data in the A 100-120 region ENHONG WANG, Vanderbilt University — The power of combining high statistics gamma-ray coincidence data and mass and Z identified low statistics gamma-ray data is illustrated by studying neutron rich nuclei in the A 100-120 region from the 4 fold gamma coincidence data following the spontaneous fission of ^{252}Cf by using Gammasphere, and also from the measurement of the prompt gamma-rays in coincidence with isotopically identified fragments produced by ^{238}U beams on a ^9Be target at energies around the Coulomb barrier with VAMOS++ and EXOGAM at GANIL. An excited deformed band was discovered in the spherical ground state of ^{96}Y to indicate the shape coexistence. In ^{100}Y , coexistence of neutron pseudo spin and GM doublet bands have been discovered for the first time. High spin level schemes of $^{118,119}\text{Ag}$ have been established. Theoretical calculations revealed their oblate deformation. The new 2 gamma vibrational bands in $^{103,107}\text{Mo}$ have been found to fill in the odd A gap of an island of 2 gamma vibrational bands in the A 100 region. Clear evidence for chiral doublet bands in ^{104}Mo has been found. Our work on these nuclei are showing the new avenues that are opened up by combining the two experimental approaches to definitively identify the gamma ray associated with particular isotopes.

Enhong Wang
Vanderbilt University

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