

INDICATIONS OF DEFORMATION ALONG $N = 40$ ISOTONES

Dr. Sean Liddick

NSCL, MSU

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The rapid development of collectivity in the $N = 40$ region as protons are removed from the $f_{7/2}$ single-particle state is suggested by the dramatic drop in energy of the first excited 2^+ state from ^{68}Ni to ^{66}Fe and the increase in $B(E2)$ along the Fe isotopic chain. Recent experiment and theoretical work has suggested the nuclei below Ni become prolate deformed with some nuclei exhibiting indications of both prolate deformed and spherical structures in their low-energy level schemes. While numerous experiments have focused on even-even nuclei, including Cr and Fe, very little is known about the neighboring odd-Z isotopic chains. To explore the role of deformation in this region, the beta decays of the Cr and Fe isotopes into the respective Mn and Co daughter nuclei were studied at the NSCL. Low-energy level structures for odd-odd nuclei straddling $N = 40$ and their interpretation will be presented.

Nuclear
Seminar

All interested
persons are
cordially
invited to
attend.