

SMOOTHLY TERMINATING ROTATIONAL BAND IN ^{64}Zn ¹

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A rotational band has been discovered in the nucleus ^{64}Zn ; it extends from spin ($12\hbar$) to spin ($24\hbar$), and exhibits strong dipole transitions between its signature partners. In our interpretation, ^{64}Zn takes on triaxial deformation ($\epsilon \sim 0.3 \gamma \sim 30^\circ$) at intermediate spin when an $f_{7/2}$ proton is promoted across the spherical shell-gap at $Z = 28$ to the $g_{9/2}$ orbital. The situation is parallel to that occurring in the smooth terminating bands in the Sn and Sb isotopes at the $Z = 50$ shell-gap. The band in ^{64}Zn is the first example of a collective band approaching termination in the mass $A \sim 60$ region.

¹Abstract of published paper: Phys. Lett. B **422**, 45-51 (1998).

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