Triaxiality-related nuclear phenomena in the A≈100 mass region

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Abstract. Deformed shape of many nuclei is proved by the rotational bands in their energy spectra. Most of the observed rotational bands are consistent with axially symmetric spheroidal shapes. Solid experimental evidence for triaxial shapes, however, is more difficult to obtain and is quite rare. Such evidence can be the phenomena of chiral rotation and wobbling motion of deformed nuclei, as these can occur only in triaxial nuclei. Solid experimental evidence for wobbling has been presented so far only for a few nuclei.

Pd and Rh nuclei in the A≈100 mass region have been recently studied, and transverse wobbling motion [1] as well as multiple chiral bands [2] were idendified in the first time in this region. These observations provide experimental evidence for the predicted triaxial shape in this mass region, and new data which enable a better understanding of the studied phenomena.

References

[1] J. Timár *et al.*, Phys. Rev. Lett. **122**, 062501 (2019).
[2] I. Kuti *et al.*, Phys. Rev. Lett. **113**, 032501 (2014).