Rotation of triaxial nuclei: wobbling and chirality

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Wobbling is a new collective mode that signals deviation from axial shape. Though quite common in molecules, it has only been recently identified in nuclei, where it appears modified as transverse wobbling excitations. Its appearance is correlated with possibility of rotating triaxial nuclei to become chiral.

Chirality is introduced as spontaneously broken symmetry of the mean field. The symmetry is only weakly broken and usually reveals as transverse and longitudinal wobbling excitations soft chiral vibrations, the precursors of the static chirality. Selected results are discussed to illustrate the consequences of chirality for energies and transition probabilities.