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Chirality and wobbling in nuclei from an experimental perspective

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The breaking of symmetries in quantum systems is one of the key issues in nuclear physics. In particular, the spontaneous symmetry breaking in rotating nuclei leads to exotic collective modes, like the chiral and wobbling motions, which have been intensively studied in the last 25 years. Chiral bands have been identified in several mass regions of the Segrè chart of nuclei, and their properties were measured, including transition probabilities and magnetic moments. A plethora of bands based on configurations with two, thee, four and even six nucleons have been identified, and in some cases also in presence of other broken symmetries. Recent experimental results and hints on their interpretation will be presented.
The wobbling motion was also intensively studied in recent years, mainly after the introduction of the transverse wobbling concept. Latest experimental results on transverse or longitudinal wobbling at low-spin in odd-even nuclei and at medium spin in even-even nuclei will be discussed.

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