Proxy-SU(3) symmetry for heavy deformed nuclei: nuclear spectra

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Abstract

Proxy-SU(3) is an approximate symmetry appearing in heavy deformed nuclei [1,2]. In SDANCA-2017 the foundations of proxy-SU(3) [3], its parameter-free predictions for the collective deformation parameters β and γ [4,5], as well as for $B(E2)$ ratios [5], have been discussed and its usefulness in explaining the dominance of prolate over oblate shapes in the ground states of even-even nuclei [6] and the point of the prolate to oblate shape transition in the rare earths region [6] has been demonstrated. In the present contribution, preliminary calculations for the spectra of heavy deformed nuclei, in which three-body and four-body operators are needed, will be discussed.

References

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