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Systematics review of low-lying positive parity structures in the 160 mass region.

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For decades now, the low-lying first excited 0^+ bands have been attributed to “ β -vibrations”, following the seminal works of Bohr and Mottelson [1, 2]. Recent discoveries have demonstrated that these bands could arise due to other modes excitations, such as quadrupole pairing [3] and shape-coexistence [4].

The current work performs a systematics review of low-lying structures in the 160 mass region. In particular, this work focus on the structural behaviour of bands built on the first excited 0^+ and 2^+ bands, which are traditionally understood as β and γ bands, respectively. The results of the systematic review are presented and the implications of the findings are there from discussed.

Reference

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Primary author: MAJOLA, Siyabonga (University of Johannesburg)

Presenter: MAJOLA, Siyabonga (University of Johannesburg)

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