

## **BACKBENDING AND SHAPE CHANGES IN ODD-A LANTHANUM ISOTOPES (LA)**

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### **Abstract**

We have developed a special computing code for calculation of nuclear shape changes and quadrupole moments ( $Q$ ) of Lanthanum Isotopes. It has been shown from these calculations that by increasing neutron number, deformation parameter also increase for more heavier isotopes which means more deformation from spherical shape. By comparison with Nilsson level diagrams we can infer quadrupole deformation parameter ( $\beta_2$ ) and calculate quadrupole moments of these isotopes.

**Keywords:** Yrast states, Backbending , Deformation parameter, Quadrupole moment, Shape change