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[Wobbling Title]

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Abstract

Nova.

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Contents

Chapter 1

Introduction

Besides the spherical and axially-symmetric shapes, the existence of nuclear deformation was theoretically predicted a long time ago [1]. Spherical nuclei are quite rare across the chart of nuclides. Near closed shells, the deformation is indeed sufficient that models based on spherical symmetries can be used to describe nuclear properties (e.g., energies, quadrupole moments, and so on).

Chapter 2

Deformed Nuclei

2.1 Nuclear deformation

Most of the nuclei across the nuclide chart are spherical or symmetric in their ground state. Moreover, for the axially symmetric nuclei (i.e, either *oblate* or *prolate*), there is a prolate over oblate dominance.

FIGURE 2.1: Nuclear Shapes.

In Figure 2.1, the nuclear shapes are shown.

Bibliography

[1] Aage Niels Bohr and Ben R Mottelson. *Nuclear Structure (In 2 Volumes)*. World Scientific Publishing Company, 1998.