

A Study of Ground-state Energies with the Strutinsky's Method and Total Binding Energy in the Woods-Saxon Potential

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A single particle states and energies simply are calculated by the Woods-Saxon potential. It corresponds with the concept of one-body potential and is a typical calculation of microscopic understanding the nuclear structure. However, this concept is not enough to make a relation between single particle energy and total binding energy. We, therefore, introduced the Strutinsky's method, as a shell correction method, for our calculation. It could be possible to understand total binding energy from microscopic calculation. And then, we will discuss applying a shell correction to calculation of total binding energy and deformation for light nuclei by using a one-body potential.

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