

Some Effects on Λ Single Particle Energies

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Abstract: With the phenomenological Λ -nucleus potentials of Woods-Saxon shape, the effects of the mass-number dependence of the shrinkage, the effective mass m_{Λ}^* and the charge-symmetry breaking (CSB) on the single particle energies are discussed. It is found that the single particle energies are not sensitive to the effective mass m_{Λ}^* . But the radius parameter depended on the mass number ($r_0(A_c)=r_1+r_2A_c^{-2/3}$) can substantially improve the results. We also found that CSB effect is significant for heavy hypernuclei with a large neutron excess.

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