

Abstract Submitted
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A new prediction for the binding energy of ${}^7_{\Lambda}\text{He}$ hypernucleus VLADIMIR SUSLOV, IGOR FILIKHIN, BRANISLAV VLAHOVIC, North Carolina Central University — P-shell A=7 hypernuclei are considered in the cluster ${}^7_{\Lambda}\text{He}+\text{N}+\text{N}$ model. The folding procedure using the OBE simulating (NSC97f) model for ΛN potential and various $\alpha\Lambda$ potentials are applied to construct the ${}^7_{\Lambda}\text{He}$ -N interaction. Configuration space Faddeev calculations are performed for hyperon binding energy of the ${}^7_{\Lambda}\text{He}$ ($\frac{1}{2}^+$) and ${}^7_{\Lambda}\text{Li}$ ($\frac{1}{2}^+$ and $\frac{3}{2}^+$, T=0) hypernuclei. A new predicted value for $B_{\Lambda}({}^7_{\Lambda}\text{He})$ is 5.35 MeV. This value was obtained for the ${}^6_{\Lambda}\text{He}(2^-)$ excitation energy equal to 0.26 MeV. Since the 2^- state of ${}^6_{\Lambda}\text{He}$ has not yet been observed, the ${}^6_{\Lambda}\text{He}(2^-)$ excitation energy was chosen to reproduce the experimental value of the ${}^7_{\Lambda}\text{Li}(\frac{3}{2}^+)$ excitation energy by the adjustment of the ${}^6_{\Lambda}\text{He}$ -N effective potential. Our results are compared with those from [1]. 1. E. Hiyama et al. Phys. Rev. C53, 2075 (1996), Phys. Rev. C59, 2351 (1999).

Branislav Vlahovic
North Carolina Central University

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