Configuration space Faddeev formalism: $\Lambda+n+n$ bound state search\(^1\) VLADIMIR SUSLOV, IGOR FILIKHIN, BRANISLAV VLAHOVIC, North Carolina Central University — The HypHI Collaboration has recently reported the evidence for bound state of $\Lambda+n+n$ system (Phys. Rev. C88, 041001(R) (2013)). However, the theoretical analysis did not find $\Lambda+n$ bound state (see, for instance, Phys. Lett. B 736, 93 (2014)). In the present work we will describe our attempt to construct a phenomenological three-body $\Lambda NN$ force with the spin-isospin dependence that is attractive in the channel $T=1$, $S=1/2$. This dependence was tested to reproduce the value of ground state energy for $\Lambda\Lambda$ hypernuclei. The formalism of the configuration-space Faddeev equations is applied for $\Lambda+n+n$ and $\Lambda+n+p$ systems. As $\Lambda+n$ interaction the s-wave potential simulating model NSC97f is used. This potential reproduces well the hyperon binding energy for $\Lambda\Lambda$ nuclei (J. Phys. G: 31, 389 (2005)). The details of the model and obtained results will be presented.

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