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Three- and four-body structure of light hypernuclei

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Two important goals of hypernuclear physics are to investigate the hyperon-nucleon(YN) and hyperon-hyperin(YN) interactions and (2) to discover novel dynamical nuclear structure effects induced by the hyperon such as Λ , Σ , Ξ and so on. At the Jefferson Laboratory and J-PARC, they planning to produce many single hypernuclei and double Λ hypernuclei. Here we discuss about 1) YN spin-orbit force and the structure of ${}^9_{\Lambda}\text{Be}$ and ${}^{13}_{\Lambda}\text{C}$, 2) YN spin-spin force and the structure of ${}^7_{\Lambda}\text{Li}$, 3) $\Lambda N - \Sigma N$ coupling and the structure of ${}^4_{\Lambda}\text{He}$ and ${}^7_{\Lambda}\text{He}$, and 4) $\Lambda - \Lambda$ interaction and structure of light p- shell double Λ hypernuclei. We also emphasize what is interesting and important from the view point of hypernuclear physics.