

Search for the kaonic nuclei at LEPS2-solenoid experiment

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Kaonic nuclei give us a good opportunity to study the interaction between anti-kaon and nuclei. Recently, the existence of three-body kaonic nuclei, the K -pp bound state, was confirmed in several experiments in J-PARC. In those experiments, kaon and pion beams were used to produce the K^+ -pp bound state. As a complementary probe, photo-induced reaction is important to study the production mechanism of the K -pp bound state. In the LEPS2 solenoid experiment in SPring-8, a high intensity multi-GeV photon beam is used to study a hadron photo-production mechanism. One of the missions of LEPS2 solenoid experiment is to study the production mechanism and the decay branching ratio of the K -pp bound state. We can measure all the decay products with a large acceptance spectrometer system sensitive to both charged and non-charged particles. In addition, isospin partners of the K -pp bound state can be searched for. In this talk, we report the preparation status of LEPS2 solenoid experiment, and discuss the yield estimation of kaonic nuclei by using photo-induced reaction.

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