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Hypernuclear physics at KEK and J-PARC

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Recent results on hypernuclear physics obtained at the 12-GeV proton synchrotron of KEK are reviewed, and the future experimental programs at J-PARC are discussed in this talk. The first part includes the results on hypernuclear gamma-ray spectroscopy with the HyperBall detector, weak decays of light lambda hypernuclei, production of a neutron-rich lambda hypernucleus, hyperon-proton scattering, and production of a double-lambda hypernucleus. The J-PARC facility has been in construction since 2001 at Tokai, Japan. The highest intensity Kaon beams will be available at an experimental hall in the summer of 2008. Various interesting experiments are proposed so far. Two of them are considered to be the Day-1 experiments. One is the new-generation spectroscopy of hadron many-body systems with strangeness -2 and -1, and the other is a search for deeply-bound Kaonic nuclear systems. These experiments together with other interesting ideas will be discussed.