

# Structure of $\Xi$ hypernuclei and $\Xi N$ interaction

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It is of importance to study baryon-baryon interaction in unified way. Especially, the information on interaction of  $S=-2$  sector is important for the study of EoS of neutron star. For this purpose, it is necessary to study the structure of double  $\Lambda$  hypernuclei and  $\Xi$  hypernuclei. Along this line, it is planned to produce  $S=-2$  hypernuclei at J-PARC. Then, recently, we had observed  $\Xi$  hypernucleus as a bound state such as  $^{14}\text{N}+\Xi$  system by emulsion experiment. From this experimental data, we come to some questions: (1) What kind of spin-parity did they observe? (2) From the data, what kind of  $\Xi N$  interaction did we obtain? (3) what kinds of  $\Xi$  hypernuclei do we need to have for the further  $\Xi N$  interaction?

In this session, I answer these questions and discuss with participants.