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## First results of baryon interactions from lattice QCD with physical masses (3) – Strangeness $S=-2$ two-baryon system

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The determination of baryon-baryon interactions directly from QCD is highly awaited. Especially for the strangeness  $S=-2$  two-baryon system, we can investigate the  $SU(3)$  structure and its breaking effect of baryon-baryon interactions because the flavor singlet combination is allowed only in this system.

Our approach is deriving a potential from coupled channel Schroedinger equation using Nambu-Bethe-Salpeter wave function measured on the lattice.

We will report our latest results of the  $S=-2$  baryon-baryon interactions and the fate of H-dibaryon by lattice QCD simulation employing quark masses around the physical point on a huge lattice volume of  $L=8\text{fm}$  generated by K computer at AICS.

**Primary author:** Dr SASAKI, Kenji (CCS, University of Tsukuba)

**Presenter:** Dr SASAKI, Kenji (CCS, University of Tsukuba)

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