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## **First results of baryon interactions from lattice QCD with physical masses (1) – General overview and two-nucleon forces**

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One of the most important frontier in lattice QCD is the first-principles determination of baryon-baryon interactions. Our novel method, the HAL QCD method, has been shown to be effective for this objective, while the calculations so far employed unphysically heavy quark masses.

Under these circumstances, we have launched the new project to calculate baryon interactions in lattice QCD, employing quark masses around the physical point on a huge lattice volume of  $(8\text{fm})^4$ . Resources such as K computer at AICS, Kobe, Japan are used for this computations.

In this talk, we first give the overview of this on-going project, such as the theoretical formalism in HAL QCD method and numerical aspects of the baryon-force computations. We then turn to the numerical results, where first preliminary results for two-nucleon forces will be shown

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