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## Lambda-Nucleon and Sigma-Nucleon interactions from lattice QCD with physical masses

*Friday, July 29, 2016 3:00 PM (20 minutes)*

We present our recent study on baryon-baryon (BB) interactions from lattice QCD with almost physical quark masses corresponding to  $(m_\pi, m_K) \approx (146, 525)$  MeV and large volume  $(La)^4 = (96a)^4 \approx (8.2 \text{ fm})^4$ . In order to make better use of large scale computer resources, a large number of BB interactions from NN to  $\Xi\Xi$  are calculated simultaneously. In this contribution, we focus on the strangeness  $S = -1$  channels<sup>1</sup> of the hyperon interactions by means of HAL QCD method. More recent results will be presented which include  $\Lambda N - \Sigma N$  coupled-channel potential comprising the tensor force as well as increasing the Monte Carlo samples than shown in the past<sup>1</sup>.

References:

<sup>1</sup> H. Nemura, et al., arXiv:1604.08346 [hep-lat].  
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