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Quark mass dependence of three-nucleon forces in lattice QCD

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Recently, the determination of three-nucleon forces attracts a great deal of interest in light of their role in nuclear and astrophysical phenomena such as EoS of nuclear matter and the structure of the neutron star core. In this talk, we present the lattice QCD calculation of three-nucleon forces utilizing the time-dependent HAL QCD method. In particular, we study the quark mass dependence of three-nucleon forces from lattice simulations with $N_f=2$ clover fermion action at $m(\pi) = 0.76, 0.93, 1.13$ GeV.

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