

Light nuclei and hyper-nuclei from lattice QCD

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Theoretical nuclear physics is undergoing a transition, in which the long promised connection to the underlying Standard Model is beginning to be explored quantitatively using the lattice field theory methods. Growth in the available computational resources and significant advances in algorithms have made it possible to study light nuclei and hyper-nuclei directly from QCD for the first time [1], albeit at quark masses heavier than those in nature. In addition, the low-energy nucleon-nucleon scattering phase shifts have also been extracted from lattice QCD calculations [2], paving the way for the investigation of more complex systems. I will summarize the calculational approach, present recent results of ongoing studies, and outline the impact and future directions of these calculations.

[1] Beane, S.R. *et al.*, Phys. Rev. D **87**, 034506 (2013).

[2] Beane, S.R. *et al.*, arXiv:1301.5790.