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Nucleon-nucleon scattering from distillation

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In published work, we reported a study of the H dibaryon in the continuum limit of SU(3)-flavor-symmetric lattice QCD with a pion/kaon/eta mass of roughly 420 MeV, employing finite-volume quantization conditions and distillation. The data were affected by large discretization effects, leading to a small binding energy in the continuum. In this talk, I will present results for nucleon-nucleon scattering based on the same dataset. In the S wave, we find that nucleon-nucleon systems with both isospin zero and one are unbound. We also obtain a nonzero signal for some higher partial waves as well as the mixing between spin-1 coupled S and D waves.

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