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Type: **1st and 2nd weeks (Hadron structure and interactions)**

## Baryon-baryon scattering in SU(3)-flavour-symmetric QCD

*Tuesday, October 22, 2024 3:30 PM (1 hour)*

Understanding (hyper)nuclear physics from ab initio QCD has been a long-standing goal. By calculating finite-volume spectra on the lattice and using finite-volume quantization conditions, it is possible to determine baryon-baryon scattering phase shifts and bound states. I will discuss the challenges in these calculations, presenting results in the continuum limit at an SU(3) flavour-symmetric point, for the H dibaryon and the deuteron. As a spin-one state, the latter is complicated by the mixing of S and D waves, which we are able to resolve.

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