



Contribution ID: 214

Type: **Talk**

## Systematic uncertainties in lattice QCD calculations of multi-hadron systems

*Friday 7 November 2025 15:10 (20 minutes)*

Excited-state effects lead to hard-to-quantify systematic uncertainties in spectroscopy calculations when imaginary times are smaller than inverse excitation gaps. The recently proposed Lanczos/Rayleigh-Ritz framework provides a set of two-sided constraints on energy levels that hold regardless of the size of excited-state effects. In this talk I discuss the application of these newly developed techniques to a high-statistics two-nucleon dataset computed at quark masses corresponding to a pion mass of 800 MeV.

### Parallel Session (for talks only)

Hadronic and nuclear spectrum and interactions

**Authors:** GREBE, Anthony; PARREÑO GARCIA, Assumpta (Universitat de Barcelona); HACKETT, Daniel; Dr ILLA, Marc (Pacific Northwest National Laboratory); WAGMAN, Michael; SHANAHAN, Phiala Elisabeth; PERRY, Robert (Massachusetts Institute of Technology); Prof. DETMOLD, William (Massachusetts Institute of Technology); Dr FU, Yang (Massachusetts Institute of Technology); Prof. DAVOUDI, Zohreh (University of Maryland)

**Presenter:** PERRY, Robert (Massachusetts Institute of Technology)

**Session Classification:** Hadronic and nuclear spectrum and interactions