



Contribution ID: 200

Type: Parallel

## Structure and transitions of nucleon excitations via parity-expanded variational analysis

*Friday 21 June 2019 16:50 (20 minutes)*

The recently-introduced Parity Expanded Variational Analysis (PEVA) technique allows for the isolation of baryon eigenstates on the lattice at finite momentum free from opposite-parity contamination. We find that this technique introduces a statistically significant correction in extractions of the electromagnetic form factors of the ground state nucleon.

It also allows first extractions of the elastic and transition form factors of nucleon excitations on the lattice. We present the electromagnetic elastic form factors and helicity amplitudes of two negative-parity excitations of the nucleon. These results provide valuable insight into the structure of these states, and allow for a connection to be made to quark-model states in this energy region.

**Primary author:** STOKES, Finn (Forschungszentrum Jülich GmbH)

**Co-authors:** LEINWEBER, Derek (University of Adelaide); Dr KAMLEH, Waseem (University of Adelaide)

**Presenter:** STOKES, Finn (Forschungszentrum Jülich GmbH)

**Session Classification:** Hadron structure

**Track Classification:** Hadron structure