Contribution ID: **63** Type: **Oral Contribution**

Extracting the nucleon axial form factor from Lattice QCD using chiral perturbation theory

Thursday, 27 October 2022 15:30 (20 minutes)

The axial form factor is a fundamental property of the nucleon and a key ingredient of neutrino-nucleon cross sections. We have calculated this form factor in relativistic Chiral Perturbation Theory at next to leading one-loop order. We investigate the problem of convergence of the perturbative series and fit to recent LQCD results. The explicit Delta(1232) is crucial to reconcile the light-quark mass dependence of the axial charge with phenomenology. Moreover, the axial radius is also extracted without relying on ad-hoc parametrisations.

Primary authors: ALVARADO, Fernando; ALVAREZ-RUSO, Luis

Presenter: ALVARADO, Fernando

Session Classification: P6 Hadron Structure, Spectroscopy, and Dynamics

Track Classification: P6 Hadron Structure, Spectroscopy, and Dynamics