



Contribution ID: 217

Type: **Talk**

## **Non-Perturbative Renormalization of Nucleon Charges with Automated Perturbative Subtraction**

*Wednesday, July 27, 2016 9:40 AM (20 minutes)*

We report on the determination of the renormalization factors of quark bilinears which are required among others in order to determine the nucleon scalar and tensor charges from the CLS  $N_f = 2$  configurations. Working in the RI'-MOM scheme, we eliminate all lattice artifacts at one-loop order using a combination of analytical results near the continuum limit and numerical calculations in automated lattice perturbation theory. The latter will allow for a ready generalization to the renormalization factors required for the average momentum fraction and other operators beyond local bilinears.

**Primary author:** Dr VON HIPPEL, Georg (University of Mainz)

**Co-authors:** Prof. WITTIG, Hartmut (University of Mainz); Mr WRANG, Linus (University of Mainz & University of Uppsala); Dr HANSEN, Maxwell (University of Mainz); Dr JUNNARKAR, Parikshit (Helmholtz-Institute Mainz, University of Mainz); Dr HARRIS, Tim (Helmholtz-Institute Mainz, University of Mainz)

**Presenter:** Dr VON HIPPEL, Georg (University of Mainz)

**Session Classification:** Standard Model Parameters and Renormalization

**Track Classification:** Standard Model Parameters and Renormalization