

# DIS2023: XXX International Workshop on Deep-Inelastic Scattering and Related Subjects



Contribution ID: 157

Type: **Parallel talk**

## New constraints on the up-quark valence distribution in the proton

*Thursday 30 March 2023 10:50 (20 minutes)*

The high- $x$  data from the ZEUS Collaboration are used to extract parton density distributions of the proton deep in the perturbative regime of QCD. The data primarily constrain the up-quark valence distribution and new results are presented on its  $x$ -dependence as well as on the momentum carried by the up-quark. The results were obtained using Bayesian analysis methods which can serve as a model for future parton density extractions.

### Submitted on behalf of a Collaboration?

No

### Participate in poster competition?

No

**Primary authors:** CALDWELL, Allen (Max-Planck-Institut für Physik (DE)); VERBYTSKYI, Andrii (Max Planck Society (DE)); CAPEL, Francesca (Technische Universität München); BOTJE, Michiel (Nikhef National institute for subatomic physics (NL)); SCHULZ, Oliver (Max Planck Society (DE)); AGGARWAL, Ritu

**Presenter:** VERBYTSKYI, Andrii (Max Planck Society (DE))

**Session Classification:** WG 1

**Track Classification:** WG1: Structure Functions and Parton Densities