Contribution ID: **266** Type: **Oral Presentation**

A lattice QCD calculation of the off-forward Compton amplitude and generalised parton distributions

Wednesday, August 10, 2022 6:10 PM (20 minutes)

A major focus of the new Electron-Ion Collider will be the experimental determination of generalised parton distributions (GPDs). I will give an outline of the CSSM/QCDSF collaboration's determination of GPD properties from a lattice calculation of the off-forward Compton amplitude (OFCA). By determining the OFCA, we can access phenomenologically important properties such as scaling and non-leading-twist contributions, and the subtraction function. We calculated the OFCA for soft momentum transfer $t \in [0.3, 1.2]$, and determine moments of the helicity-conserving and -flipping amplitudes, which reduce to their respective GPD moments at leading-twist.

Primary authors: HANNAFORD GUNN, Alec (The University of Adelaide); SCHIERHOLZ, Gerrit (DESY); STUBEN, Hinnerk (Universitat Hamburg); ZANOTTI, James (University of Adelaide); CAN, K. Utku (The University of Adelaide); RAKOW, Paul E. L. (University of Liverpool); HORSLEY, Roger (University of Edinburgh); YOUNG, Ross (The University of Adelaide)

Presenter: HANNAFORD GUNN, Alec (The University of Adelaide)

Session Classification: Hadron Structure

Track Classification: Hadron Structure