



Contribution ID: 161

Type: **Talk**

The gluon and x -dependent isoscalar quark structure of the nucleon

Tuesday 4 November 2025 14:50 (20 minutes)

The HadStruc Collaboration is engaged in a long-term program to extract the partonic structure of hadrons from first principles. I will review our on-going work on the gluon momentum fraction and the x -dependent isoscalar quark structure of the nucleon. The gluon momentum fraction is central to understanding the origin of mass in hadrons and a benchmark quantity for lattice calculations of hadron structure, although lattice results are significantly less precise than current experimental data. We apply the gradient flow along with distillation and the summed generalised eigenvalue problem to improve our signal-to-noise ratio and extract the gluon momentum fraction with as high a precision as possible. For the isoscalar quark parton distribution function, I will present our computation using the pseudo-distribution framework on a single ensemble of $N_f = 2+1$ Wilson-Clover fermions.

Parallel Session (for talks only)

Structure of hadrons and nuclei

Author: MONAHAN, Christopher

Presenter: MONAHAN, Christopher

Session Classification: Structure of hadrons and nuclei