

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



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Type: **Parallel talk**

## Modification of Quark-Gluon Distributions in Nuclei by Correlated Nucleons Pairs

*Tuesday 28 March 2023 09:40 (20 minutes)*

Analyzing data from nuclear lepton Deep-Inelastic Scattering, Drell-Yan processes, and  $W$  and  $Z$  boson production, we show that factorizing nuclear structure into quasi-free nucleons and universally modified close-proximity Short Range Correlated (SRC) nucleon pairs allows us to fully describe the quark-gluon structure of nuclei down to very-low momentum fractions. This is the first combined extraction of the universal distribution of quarks and gluons inside SRC pairs, and the nucleus-specific fraction of nucleons in SRC pairs. The extracted SRC fractions are in good agreement with previous nuclear structure calculations and measurements. This extraction of nuclear structure information from quark-gluon distributions thus represents a significant development toward understanding the structure of nuclei in terms of their fundamental quark-gluon constituents. At the same time such obtained nuclear PDFs are in very good agreement with fits using conventional framework of global nuclear PDF analysis.

### Submitted on behalf of a Collaboration?

No

### Participate in poster competition?

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