



Contribution ID: 33

Type: **not specified**

## Open Charm Production and Nuclear Gluon Densities

Very little is known about nuclear gluon densities.

We explore the direct measurements of nuclear gluon densities via open charm and beauty production at an Electron-Ion Collider (EIC).

In the high- $x$  ranges  $x \sim 0.05$ - $0.15$  (antishadowing) and  $x > 0.3$  (EMC effect) strong modifications are expected relative to the incoherent sum the nucleon gluon distribution.

These effects offer insight into non-nucleonic degrees of freedom and the QCD structure of nucleon-nucleon interactions. We describe the charm production rates in nuclear deep-inelastic scattering (DIS) at large  $x_B$ , and comment on methods for charm reconstruction using next-generation detectors at the EIC ( $\pi/K$  identification, tracking, vertex detection).

**Primary author:** Prof. HYDE, Charles (Old Dominion University)

**Co-authors:** Dr WEISS, Christian (Jefferson Laboratory); NGUYEN, Dien (University of Virginia); Dr HIGINBOTHAM, Doug (Jefferson Lab); CHUDAKOV, Eugene (Jefferson Lab); STRATMANN, Marco (University of Tuebingen); Prof. STRIKMAN, Mark (Pennsylvania State University); Dr FURLETOV, Sergey (University of Bonn); Dr FURLETOVA, Yulia (Jefferson Lab); Dr YE, Zhihong (Argonne National Laboratory)

**Presenter:** Prof. HYDE, Charles (Old Dominion University)