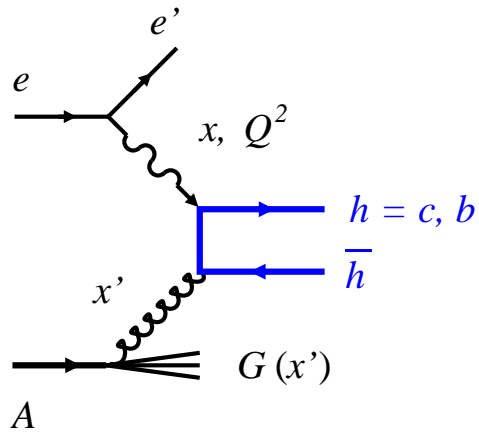


# Open charm sensitivity to large- $x$ gluons

C. Weiss, LDRD Project "Nuclear gluons with charm at EIC," Meeting 13-Jan-16

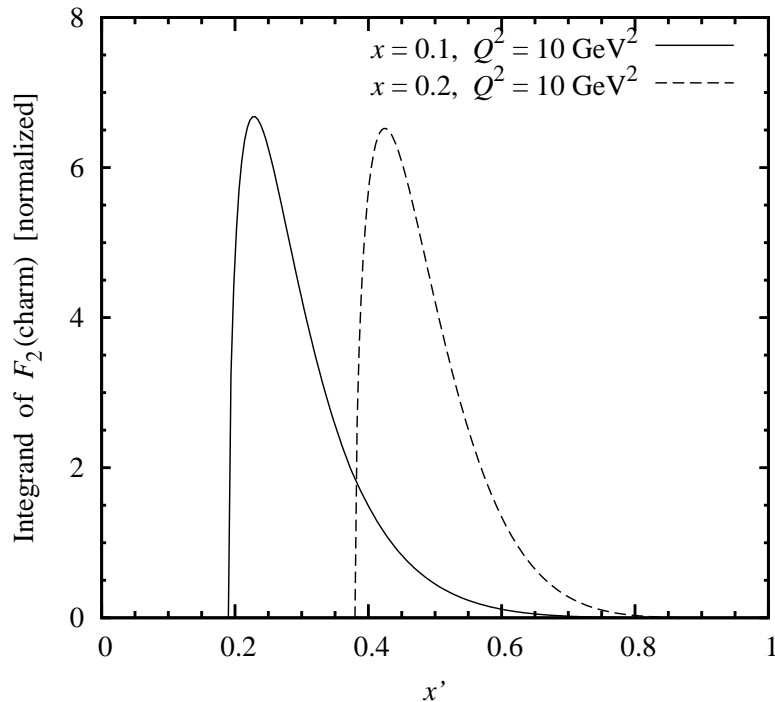


$$F_2^h(x, Q^2) = \int_{ax}^1 \frac{dx'}{x'} x' G(x') \hat{F}_g^h(x/x', Q^2, m_h^2, \mu^2)$$

coefficient function

$$a = 1 + \frac{4m_h^2}{Q^2}$$

sets limit of  $x'$  integral



- Integrand localized in  $x'$  around lower limit  $ax$
- Heavy quark production probes large- $x'$  gluons "almost locally"

# EIC User Group Meeting Highlights

- Great interest in gluonic structure and nuclear PDFs
- Expect increased detector R&D to develop specific capabilities
- Report on nuclear gluon project [\[Slides\]](#)
- Nuclear PDF study by BNL group: T. Ullrich et al. [\[Slides\]](#)
  - Impact of  $F_2(\text{charm})$  pseudodata on EPS09 nuclear PDFs
  - Open charm strongly constrains on large- $x$  gluons
  - Should be confirmed, refined: charm reconstruction, differential measurements