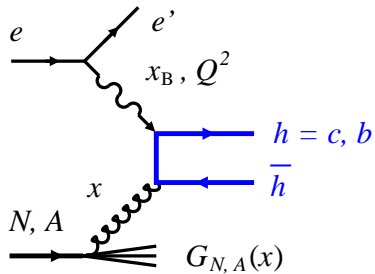


Heavy quark photoproduction with EIC

LDRD Project "Nuclear gluons with charm at EIC," Meeting 16-Sep-21

- Heavy quark production in QCD involves multiple hard scales



$$Q^2 \longleftrightarrow m_h^2 \longleftrightarrow p_T^2$$

Possible to use photoproduction

- Extensive photoproduction studies at HERA

Charm and beauty fragmentation functions, spectroscopy, dijets, . . .

H. Abramowicz *et al.* [ZEUS Collaboration], 2013 JHEP **1309** 058 [[INSPIRE](#)]

F. D. Aaron *et al.* [H1 Collaboration], Eur. Phys. J. C **72**, 2047 (2012) [[INSPIRE](#)]

- Potential advantages of photoproduction:

Higher HQ production rates; fewer structures (σ_T only)

- JLEIC design has low- Q^2 electron tagger for photoproduction

Need specifications: Q^2 cutoff, effective photon flux