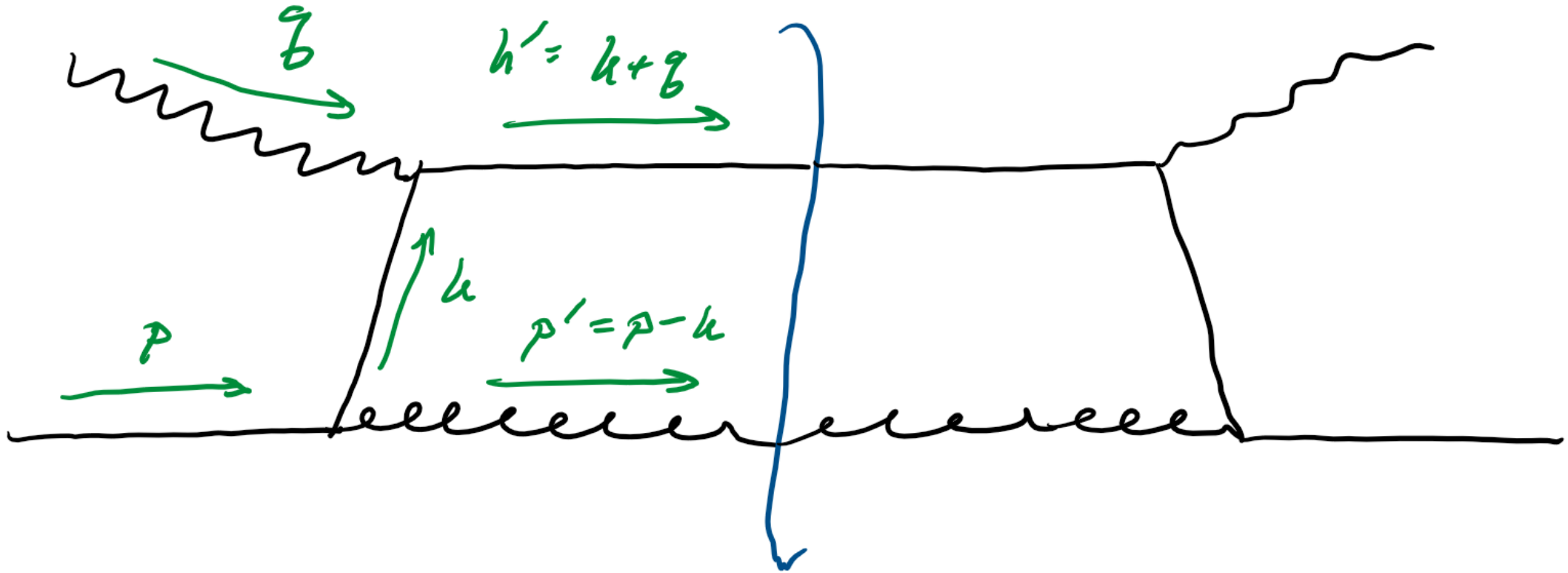
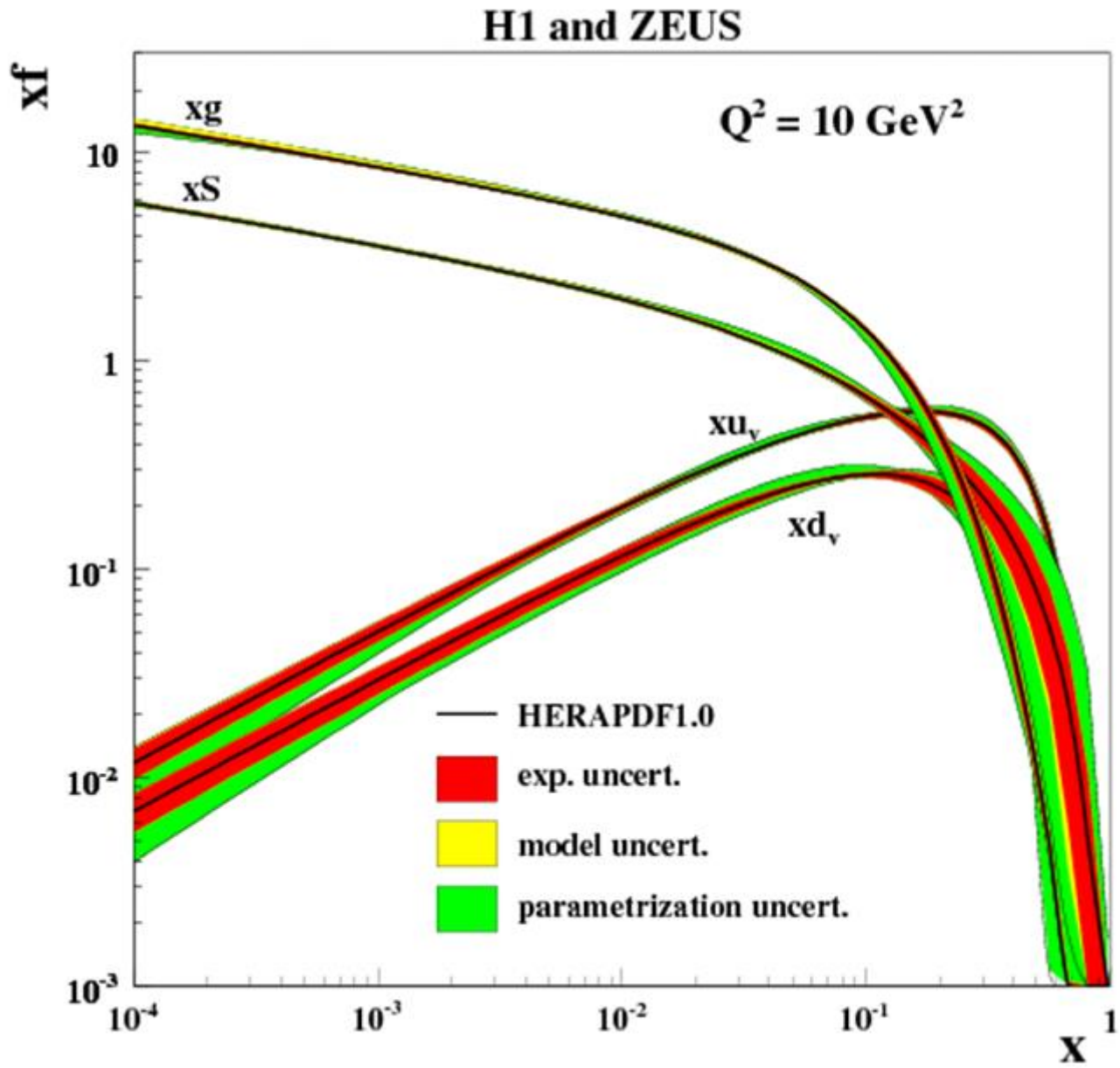
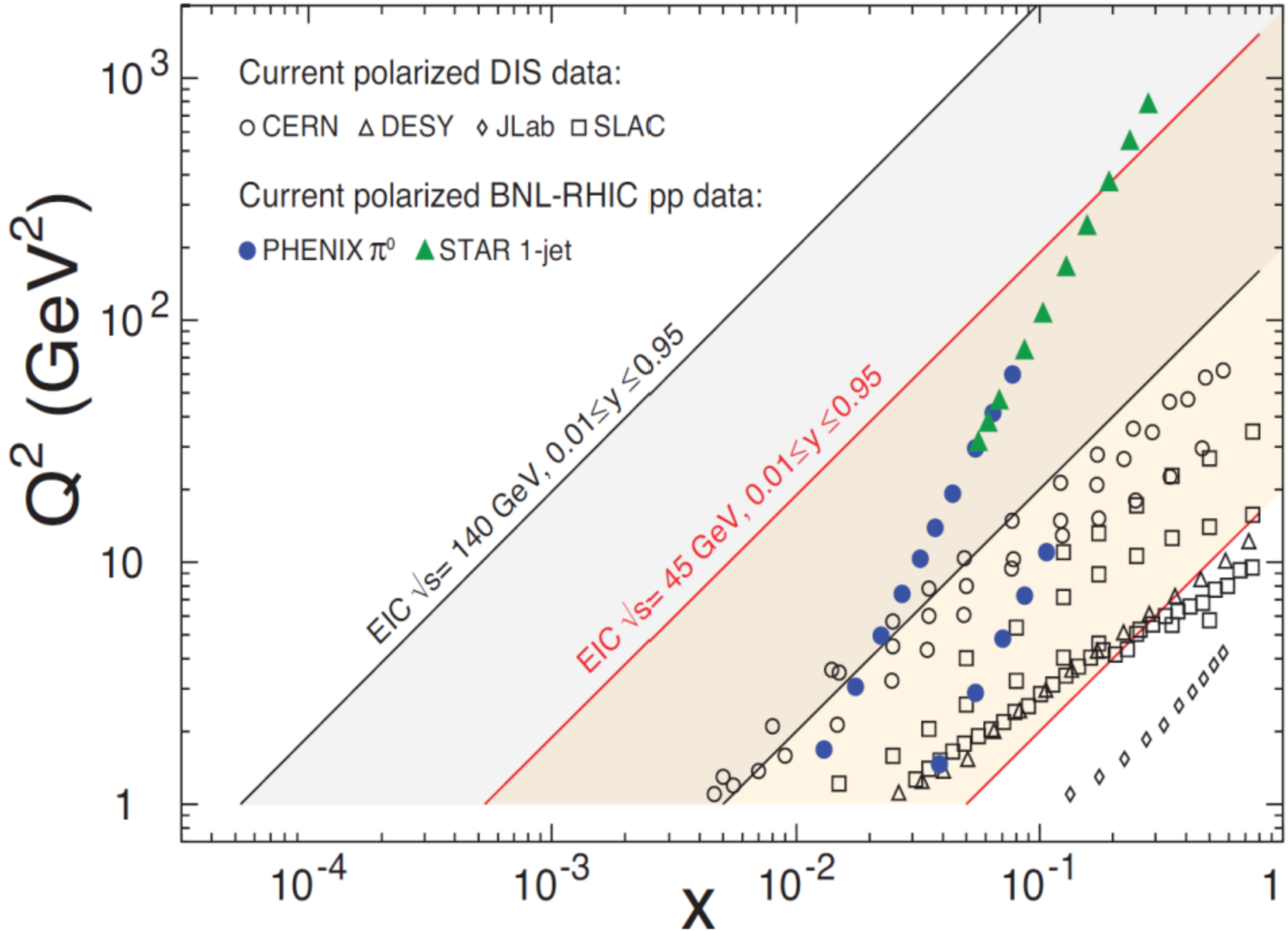
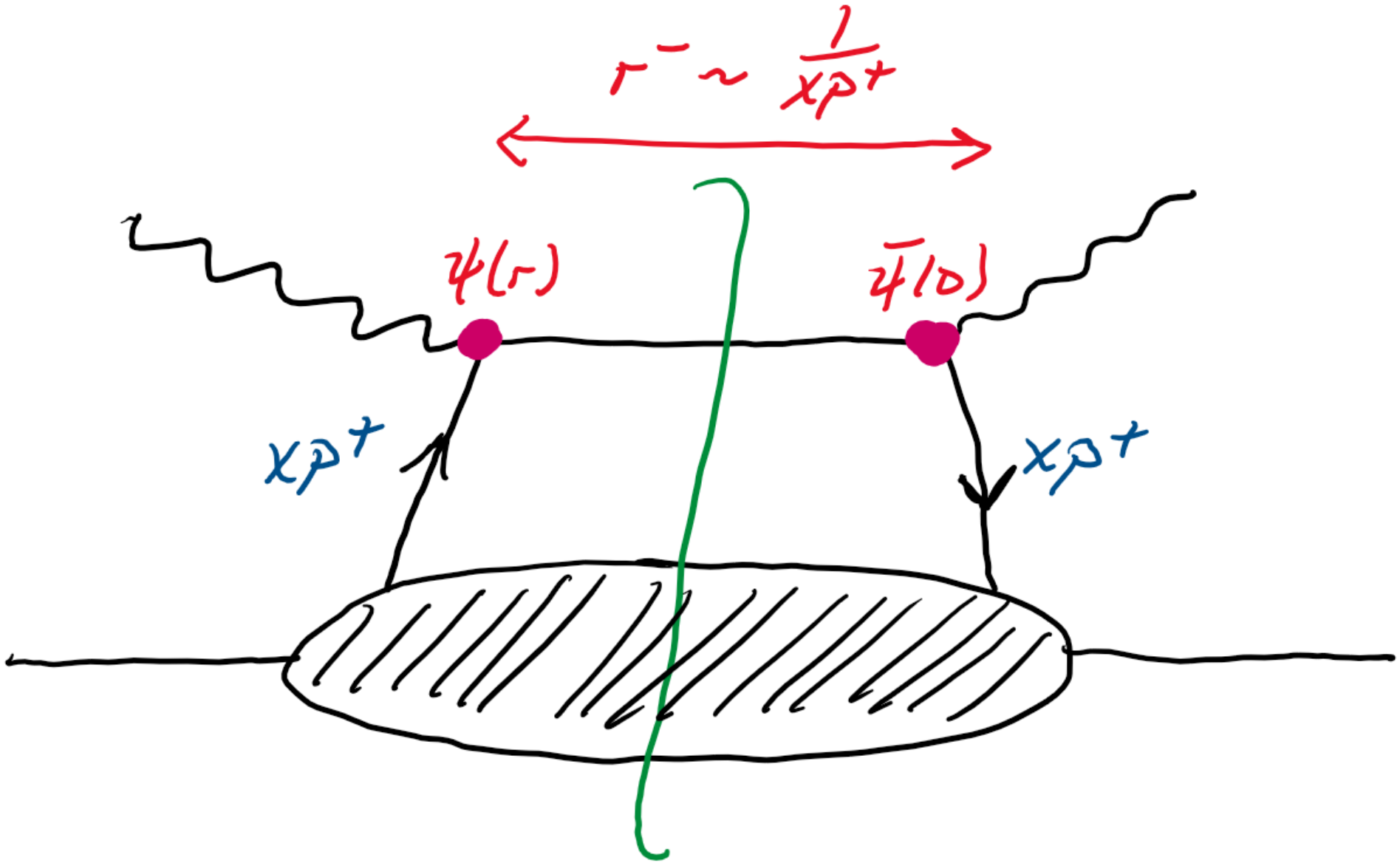
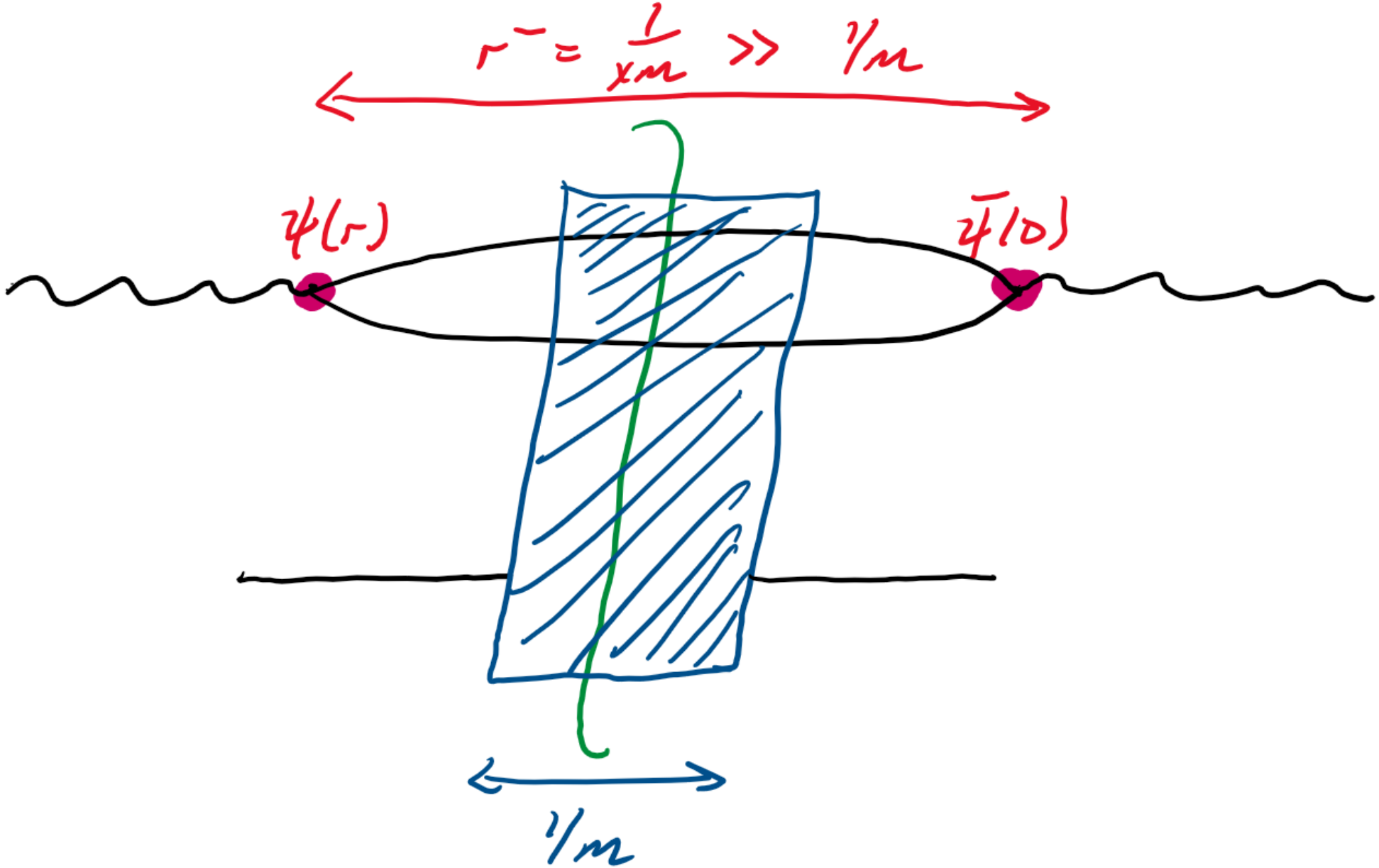
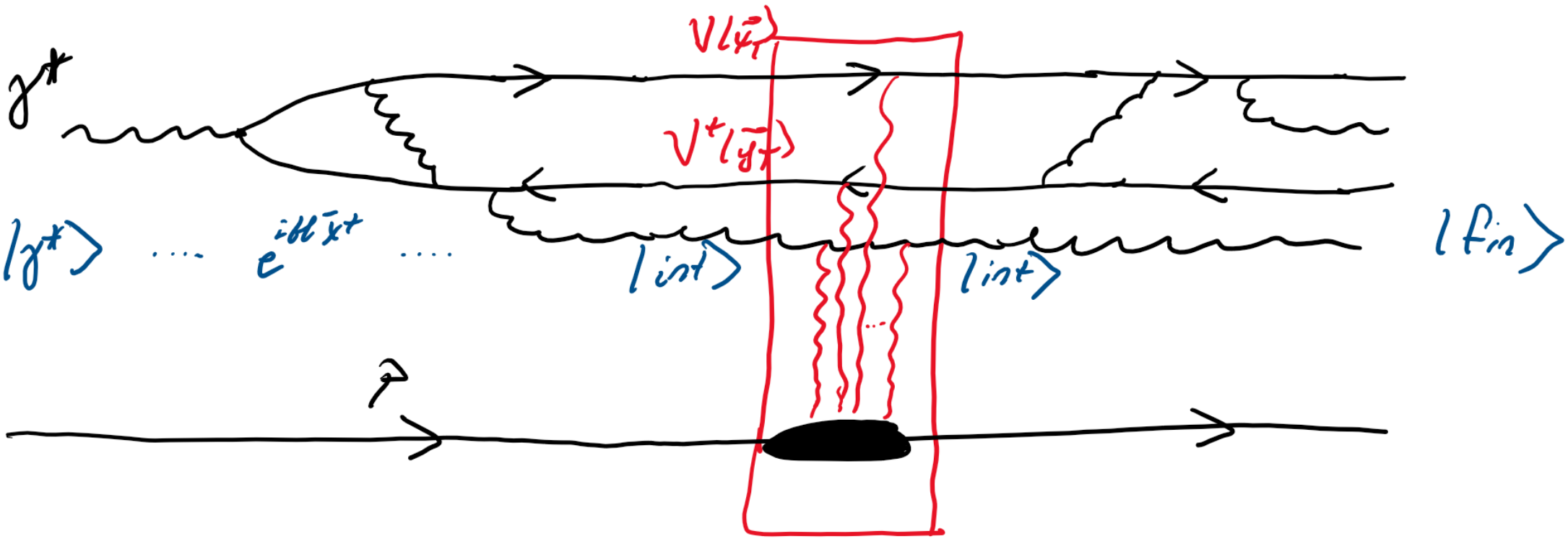

q
k' = k + q
k
p
p' = p - k


H1 and ZEUS
$Q^2 = 10\ GeV^2$
xf
xg
xS
xu_v
xd_v
HERAPDF1.0
exp. uncert.
model uncert.
parametrization uncert.
10
1
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-3}
10^{-2}
10^{-1}
1
x


Current polarized DIS data:
CERN DESY JLab SLAC
Current polarized BNL-RHIC pp data:
PHENIX π0 STAR 1-jet
EIC √s= 140 GeV, 0.01≤y ≤0.95
EIC √s= 45 GeV, 0.01≤y ≤0.95
Q2 (GeV2)
10 3
10 2
10
1
10-4
10-3
10-2
10-1
1
x


$r^- \sim \frac{1}{xp^+}$
$\psi(r)$
$\bar{\psi}(0)$
xp^+
xp^+


$r^- = \frac{1}{xm} \gg 1/m$
$\psi(r)$
$\bar{\psi}(0)$
$1/m$



$$\underbrace{\langle fin|\, e^{i\hat{H}\bar{x}^+}\, |int\rangle}_{\psi^*(\vec{x}_T,\vec{y}_T)}\; V(\vec{x}_T)V^+(\vec{y}_T)\cdots\; \underbrace{\langle int\,|\, e^{i\hat{H}\bar{x}^+}\,|\gamma^*\rangle}_{\psi_{\gamma^*}(\vec{x}_T,\vec{y}_T)}$$