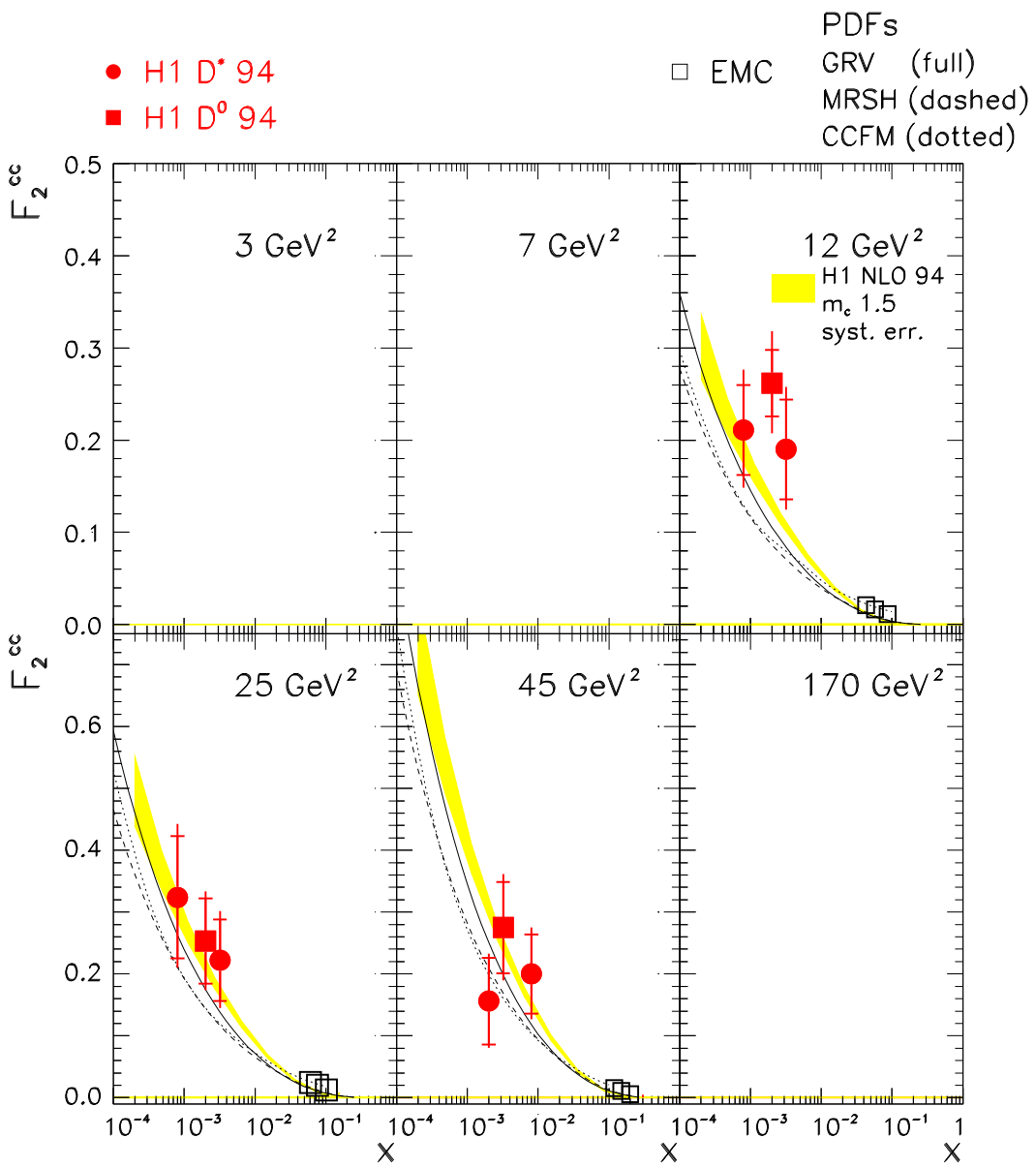
Structure Function $F_2^{c\bar{c}}(x, Q^2)$

$c\bar{c}$ production cross section described by $F_2^{c\bar{c}}(x, Q^2)$ (neglect $F_L^{c\bar{c}}$, $F_3^{c\bar{c}}$):

$$\frac{d^2\sigma^{c\bar{c}}}{dx\,dQ^2} = \frac{2\pi\alpha^2}{xQ^4}(1 + (1-y)^2) \cdot F_2^{c\bar{c}}(x, Q^2)$$



$\Longrightarrow$ Sharp rise towards small x (driven by gluons)

$\Longrightarrow$ Reasonably described by NLO pQCD predictions

$\Longrightarrow$ Ratio $F_2^{c\bar{c}}/F_2$ is large $\sim 25\%$ $\sim 10\times$ wrt EMC (larger x)

$\Longrightarrow$ Ratio $F_2^{c\bar{c}}/F_2$ is $\approx$ constant for $10 < Q^2 < 100$ GeV^2