Dijet Real Photoproduction

- Cuts: $Q^2 < 5$ GeV^2, $|\eta| < 2$, $y > 0.1$
asymmetric jet cuts $E_{T_1}, E_{T_2} > 6, 4$ GeV

- Sum: full line. Direct: dotted. Resolved: dash-dotted.

- HERA curve is much softer in p_T (falls stronger)

- THERA resolved dominant over whole p_T range whereas direct dominant for large E_T at HERA.

- THERA gives excellent opportunity to study photon structure at large p_T, i.e. problems of underlying events and hadronization corrections etc small.

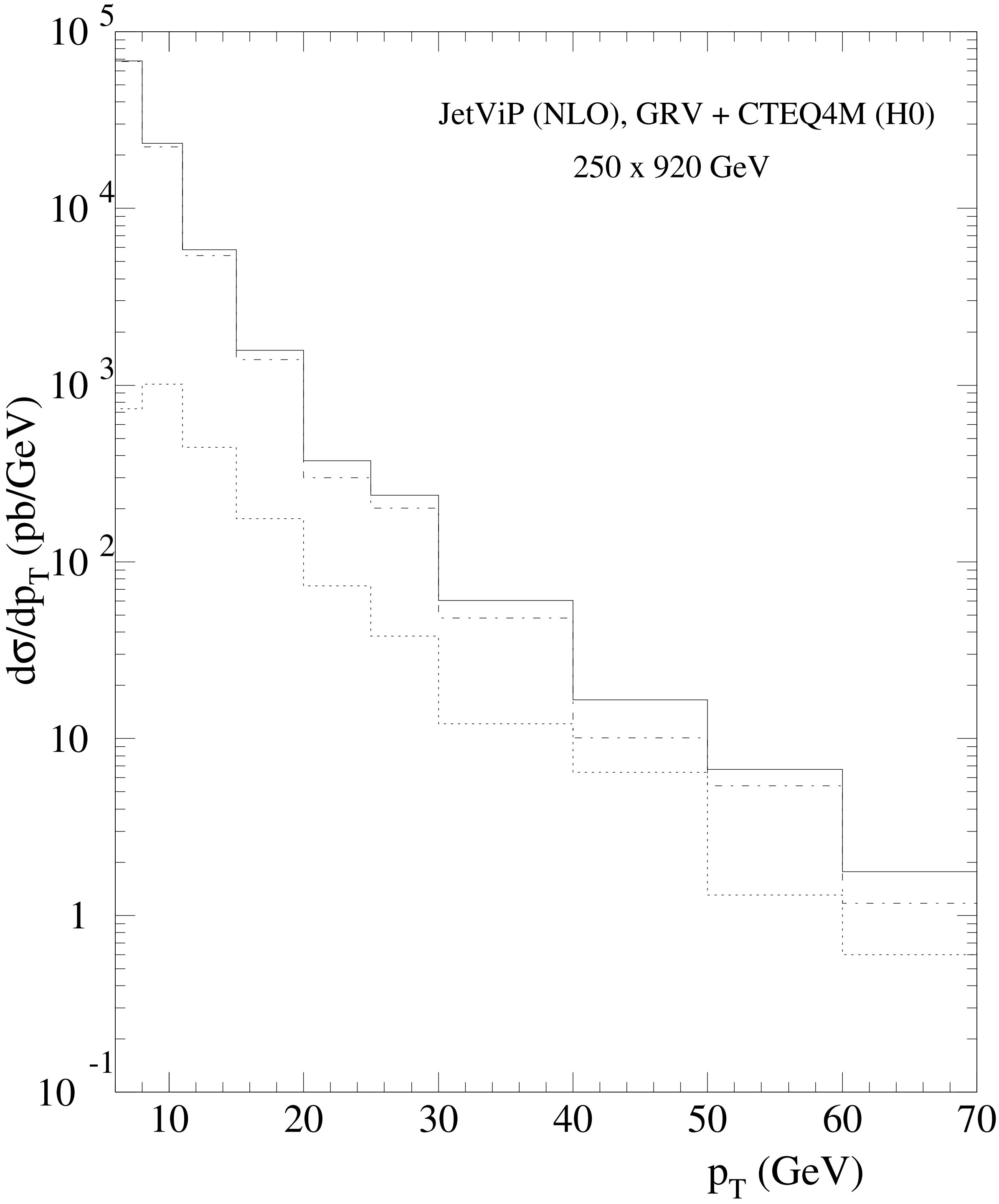

Figure 1: Photoproduction $eP \to$ dijets at THERA with $Q^2 < 5$ GeV^2, $|\eta| < 2$, $E_{T_1}, E_{T_2} > 6, 4$ GeV, $y > 0.1$.

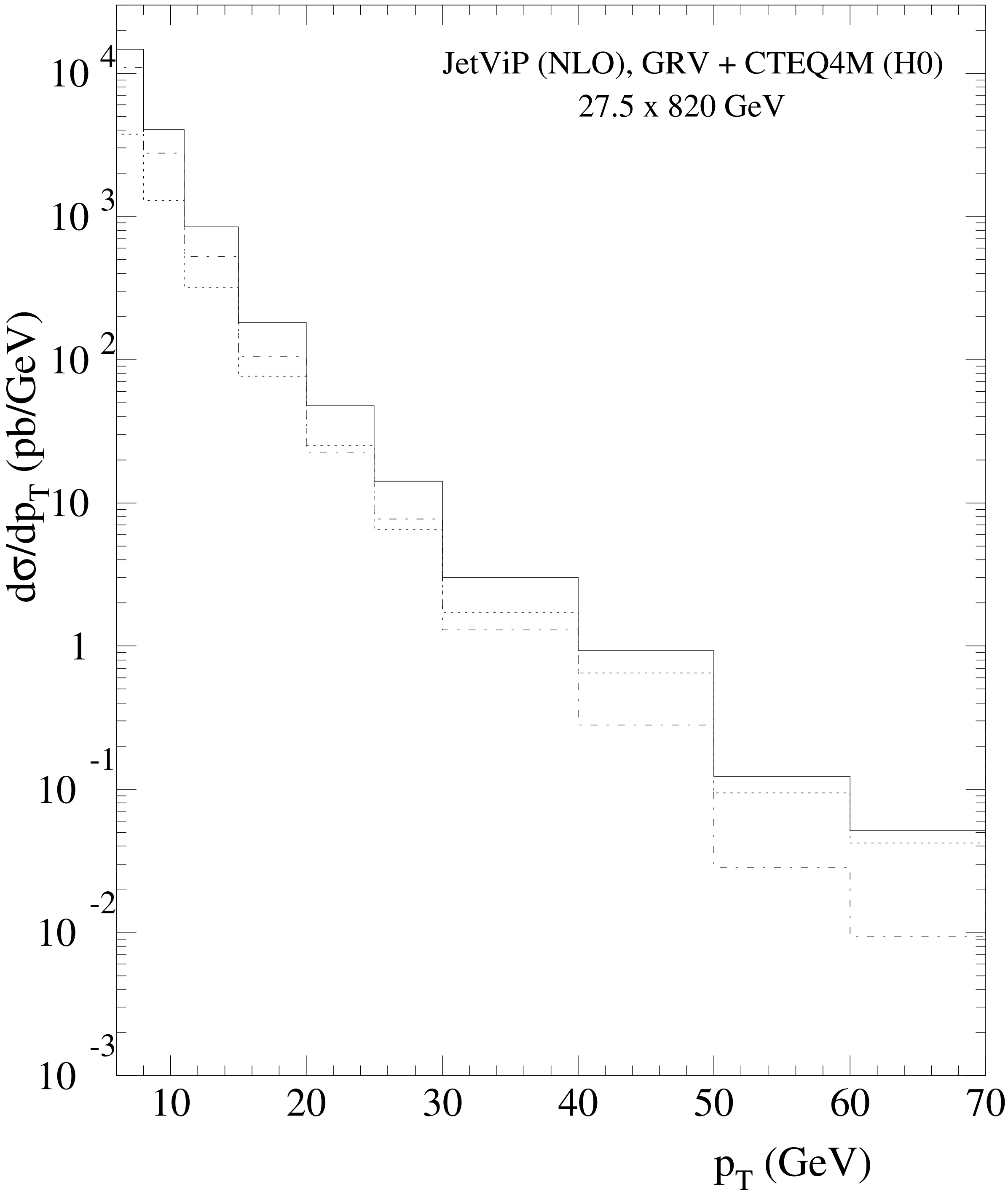

Figure 2: Photoproduction $eP \to$ dijets at HERA with $Q^2 < 5$ GeV^2, $|\eta| < 2$, $E_{T_1}, E_{T_2} > 6, 4$ GeV, $y > 0.1$.

Dijet Virtual Photoproduction

- Cuts: $Q^2 \in [.25, 6]$ GeV^2, $|\eta| < 2$, $y > 0.1$
asymmetric jet cuts $E_{T_1}, E_{T_2} > 7, 5$ GeV
Scales: $\mu^2 = Q^2 + E_T^2$, SaS1D PDFs for virtual photon

- Sum: full line. Direct: dotted. Resolved: dash-dotted.

- THERA resolved dominant over whole Q^2 range whereas direct dominant for larger Q^2 at HERA.

- THERA gives excellent opportunity to study virtual photon structure (also at larger p_T), especially Q^2 dependence.

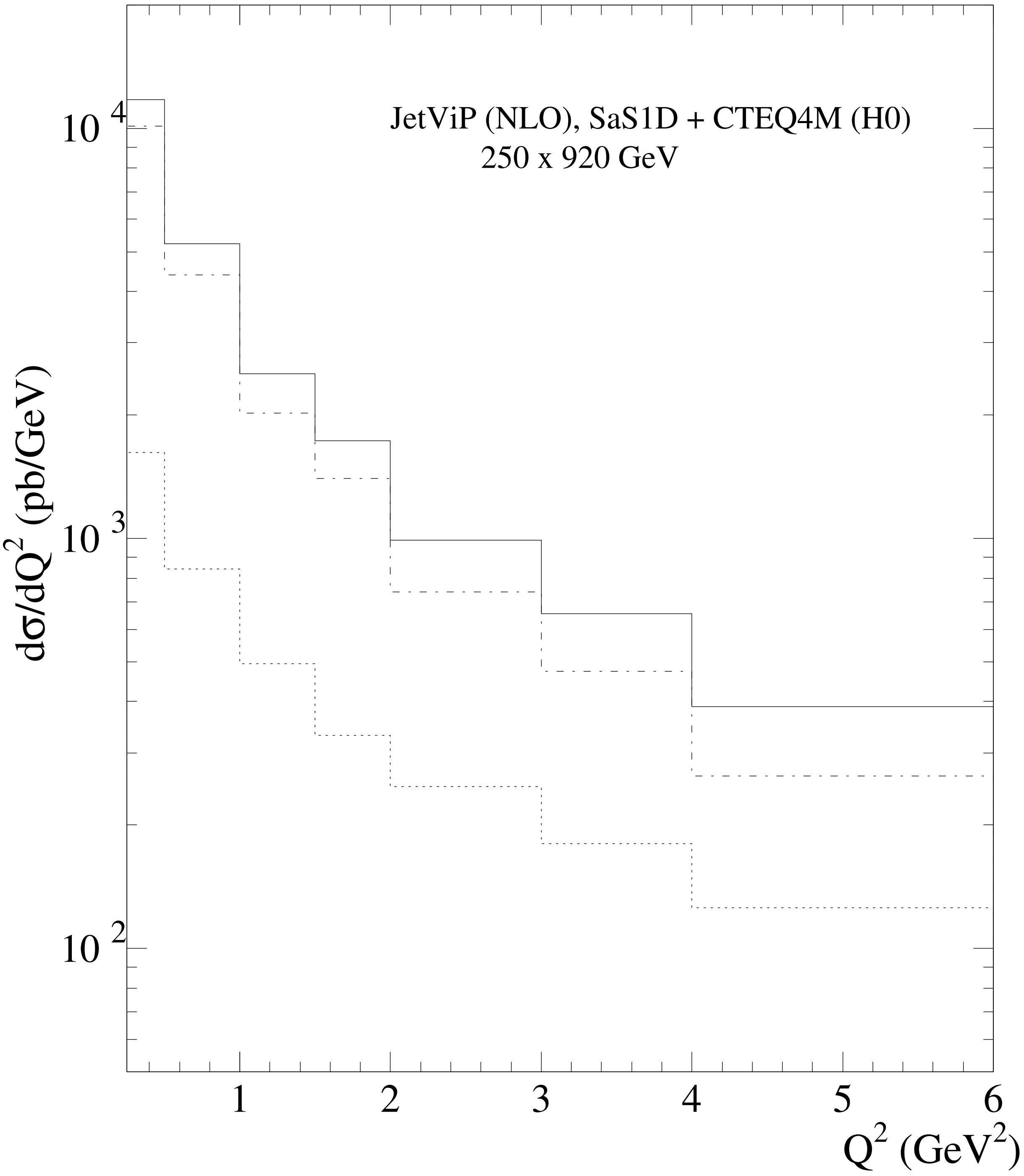

Figure 3: Virtual Photoproduction $eP \to$ dijets at THERA with $.25 < Q^2 < 6$ GeV^2, $|\eta| < 2$, $E_{T_1}, E_{T_2} > 7,5$ GeV, $y > 0.1$.

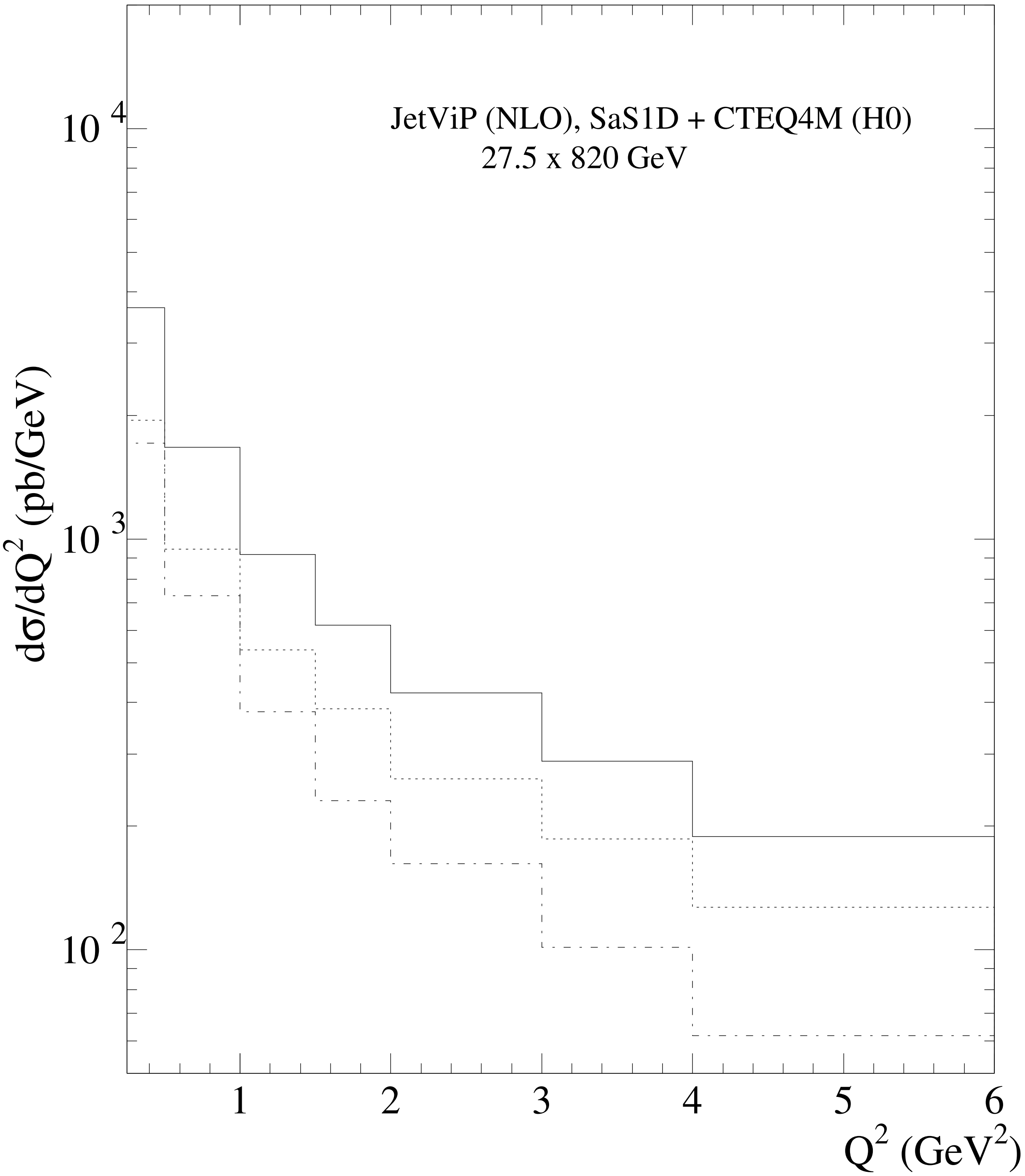

Figure 4: Virtual Photoproduction $eP \rightarrow$ dijets at HERA with $.25 < Q^2 < 6$ GeV^2, $|\eta| < 2$, $E_{T_1}, E_{T_2} > 7, 5$ GeV, $y > 0.1$.

Dijet Production in DIS

- Cuts: $Q^2 > 100$ GeV^2, $|\eta^{lab}| < 2$, $y > 0.1$, $E_{T_{1,2}}^{lab} > 10$ GeV
Scales: $\mu^2 = \xi Q^2$, CTEQ4M PDFs

- $\xi = 1$: full line. Scale variation $\xi = 10, 0.1$.

- THERA: reaches down to smaller x_{bj} due to larger s
($x_{bj} = Q^2/(ys)$). Good possibility to study small x physics.

- Scale dependences for THERA and HERA small.

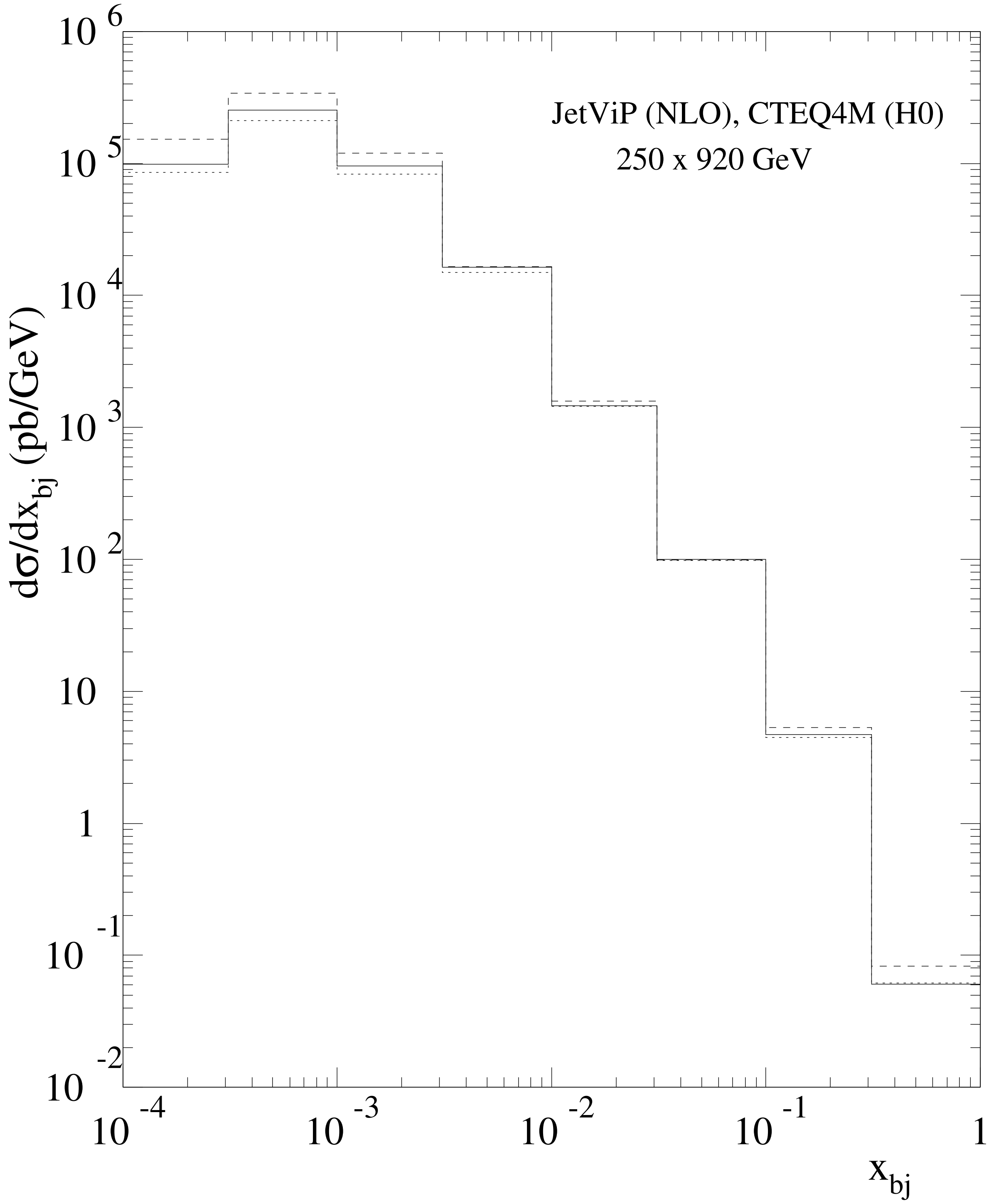

Figure 5: DIS $eP \to$ dijets at THERA with $Q^2 > 100$ GeV^2, $|\eta| < 2$, $E_{T_1}, E_{T_2} > 10$ GeV, $y > 0.1$.

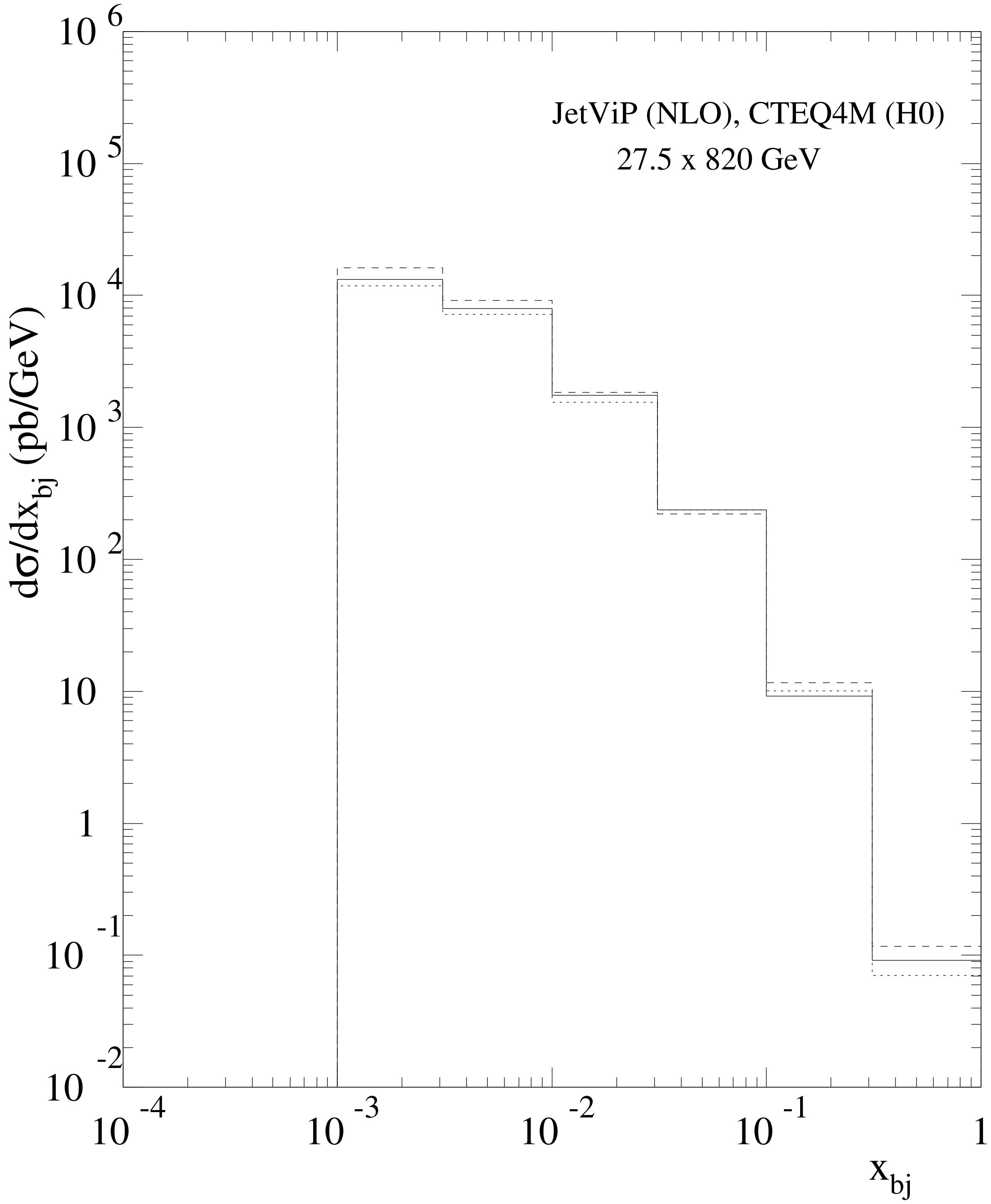

Figure 6: DIS $eP \to$ dijets at HERA with $Q^2 > 100$ GeV^2, $|\eta| < 2$, $E_{T_1}, E_{T_2} > 10$ GeV, $y > 0.1$.