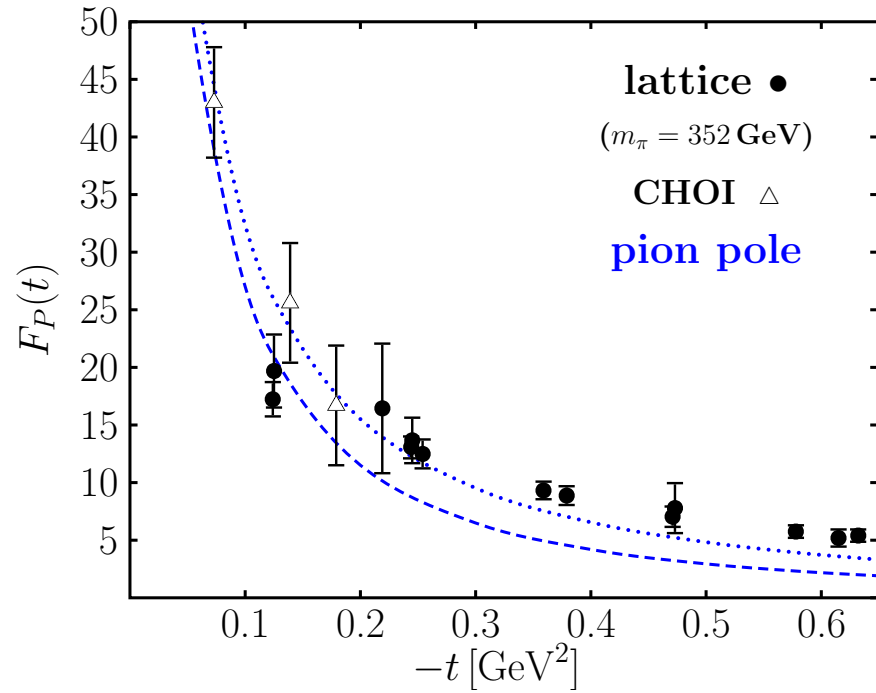
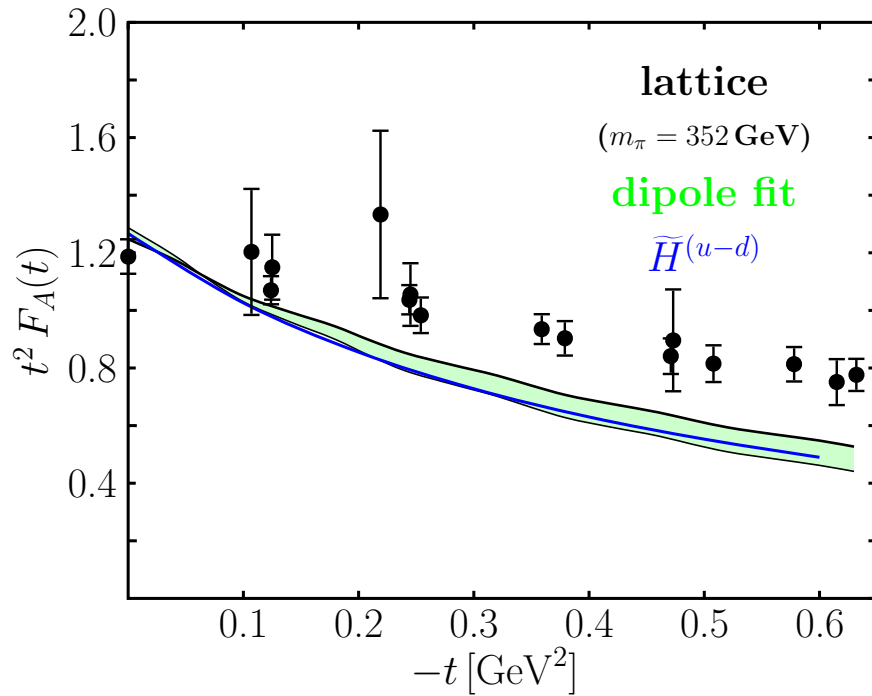


What do we know about GPDs?

GPD	probed by	constraints	status
H	ρ^0, ϕ cross sections	PDFs	known
\tilde{H}	-	polarized PDFs	probably small
E	$A_{UT}(\rho^0, \phi)$	sum rule for 2^{nd} moment	probably small
others	-	-	unknown
H	ρ^0, ϕ cross sections	PDFs, Dirac ff	known
\tilde{H}	π^+ data	pol. PDFs, axial ff	known
E	$A_{UT}(\rho^0, \phi)$	Pauli ff	known
$\tilde{E}^{n.p.}$	π^+ data	-	uncertain
H_T	π^+ data	transversity PDFs [1]	known
others	-	-	unknown

Status of **small-skewness** GPDs as extracted from meson electroproduction data. The upper part is for gluons and sea quarks, the lower part for valence quarks. Except of H for gluons and sea quarks all GPDs are probed for scales of about 4 GeV^2 ([1] Anselmino (09))

Form factors



lattice: [Haegler\(07\)](#)

dipole fit to data: [Kitagaki](#)

pion-pole contribution with $\Lambda_N = 0.51(0.8) \text{ GeV}$

Moments of H

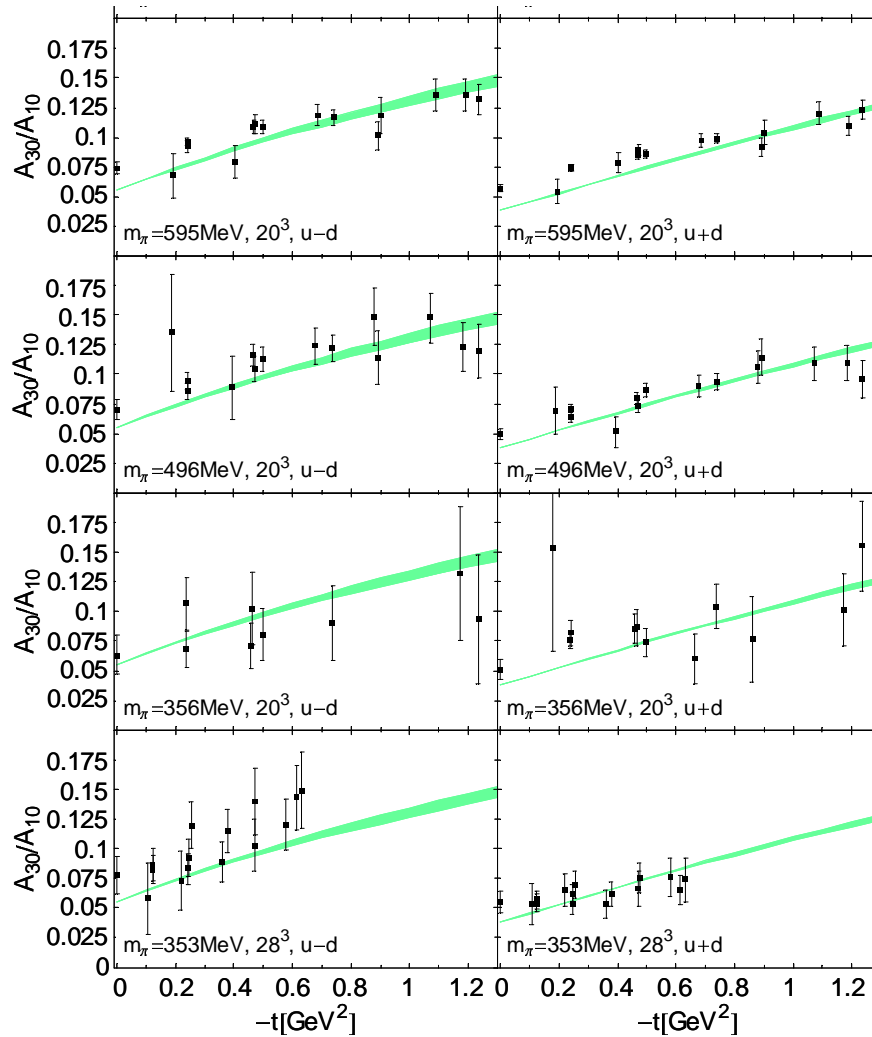
lattice: Haegler *et al* (07)

: green: DFJK(04)

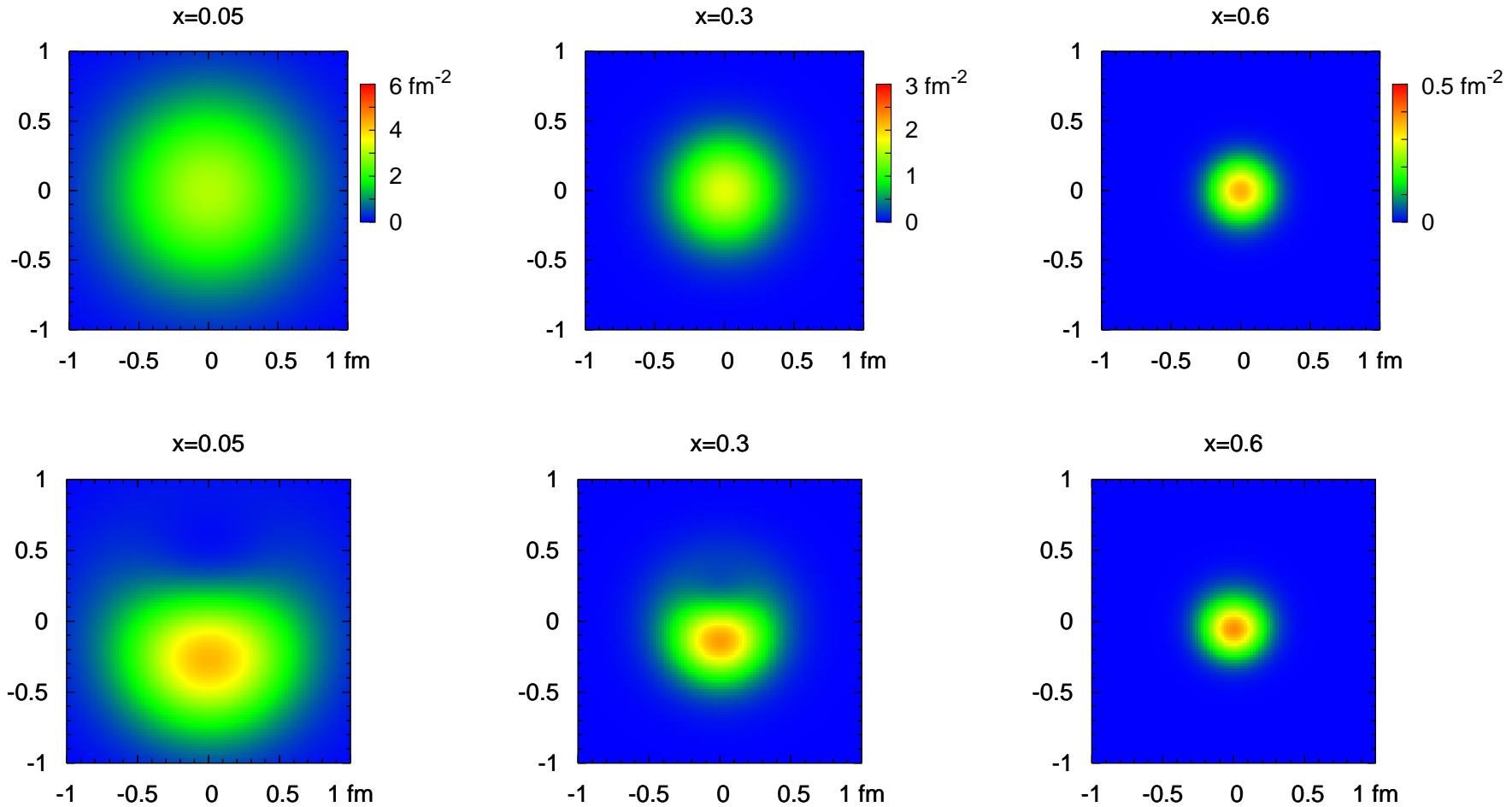
$$A_{30}(t) = \int_{-1}^1 dx x^2 H^a(x, \xi = 0, t)$$

scaled by A_{10}

t dependence correctly predicted



Transverse localization of partons



$$q_v^X(x, \mathbf{b}) = q_v(x, \mathbf{b}) - \frac{b^y}{m} \frac{\partial}{\partial \mathbf{b}^2} e_v^q(x, \mathbf{b})$$