



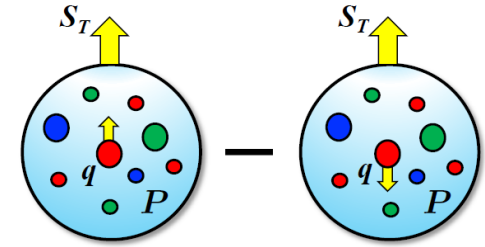
Round Table

Open issues in the extraction of transversity

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Different methods



□ TMD approach

- Collins effect in SIDIS
- TMD approach plus twist-three approach : also A_N in pp
- TMD approach plus GPM/CGI approach : also A_N in pp

$$\propto h_1(x, k_\perp) \otimes H_1^\perp(z, P_\perp)$$

□ Collinear approach

- dihadron FFs in SIDIS and pp

$$\propto h_1(x) H_1^4(z, R_T^2)$$

Both cases: extra chiral-odd unknown

Soffer bound

□ use/misuse of the Soffer bound (a priori / a posteriori)

Soffer Bound [J. Soffer, PRL74 (1995) 1292-1294]

$$|h_1^q(x, Q^2)| \leq \frac{1}{2} \left[f_{q/p}(x, Q^2) + g_{1L}^q(x, Q^2) \right]$$

- down-quark helicity distribution is negative: stronger bound (apparently *less* problematic)
- Unpol and helicity PDFs poorly known at very large x ...large uncertainties in the bound
- *Bias* in the exploration of the parameter space

Tensor charge

- Tensor charge and isovector combination

$$\delta q = \int_0^1 \left[h_1^q(x) - h_1^{\bar{q}}(x) \right] dx \quad g_T = \delta u - \delta d$$

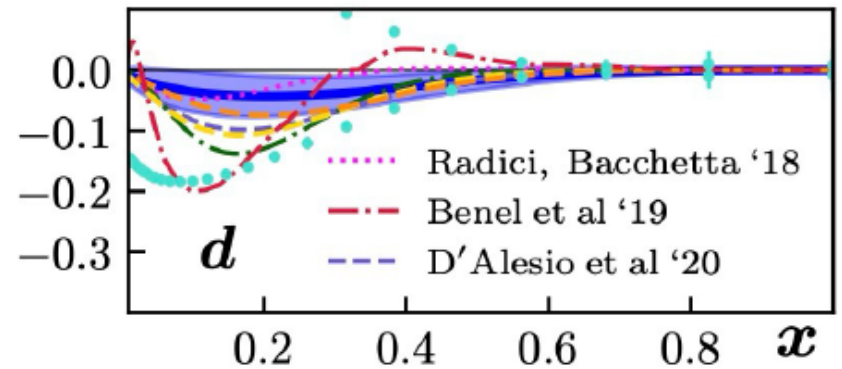
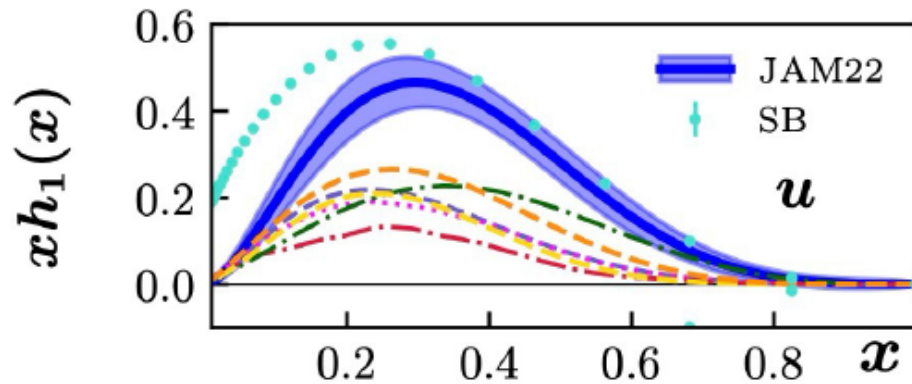
- large x involved
- Sea quark contribution

- Pheno estimates: SIDIS data up to $x=0.3$, A_N in pp up to $x=0.7$

- Lattice calculations:

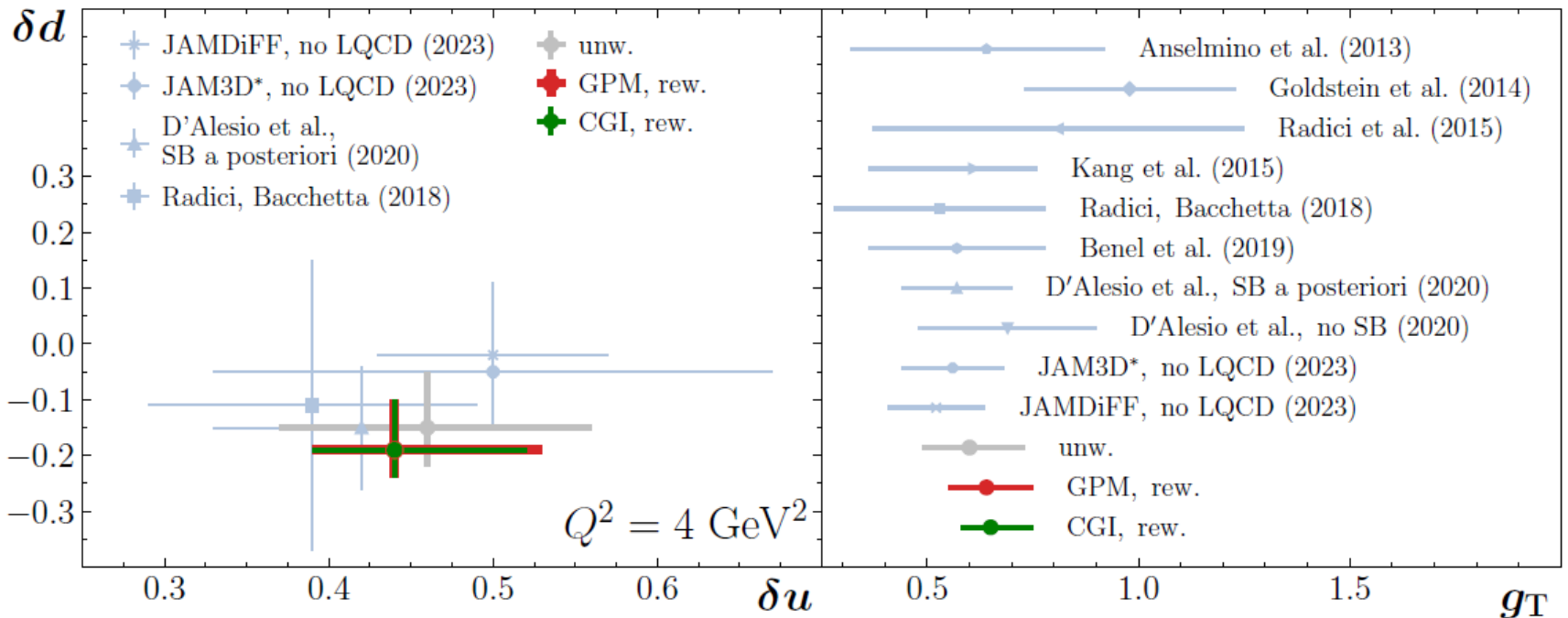
- use/ impact
- tension with phenomenological extractions

Phenomenological extractions



Talk by D. Pitonyak

Tensor charges: pheno. extractions

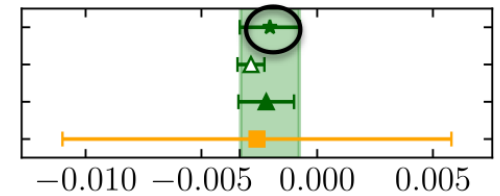
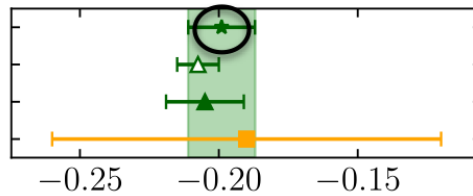
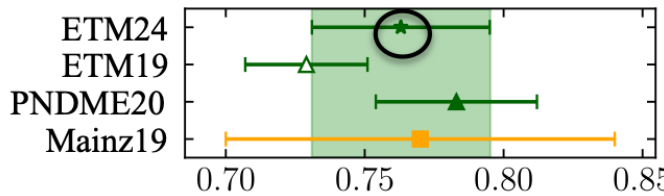
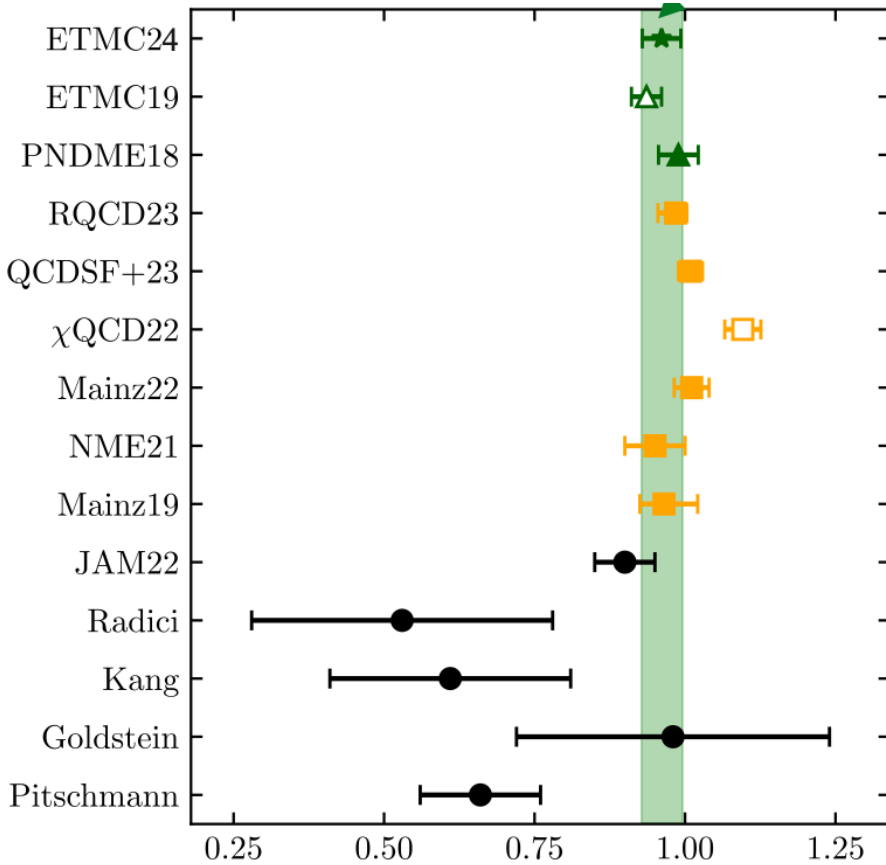


Consistency!

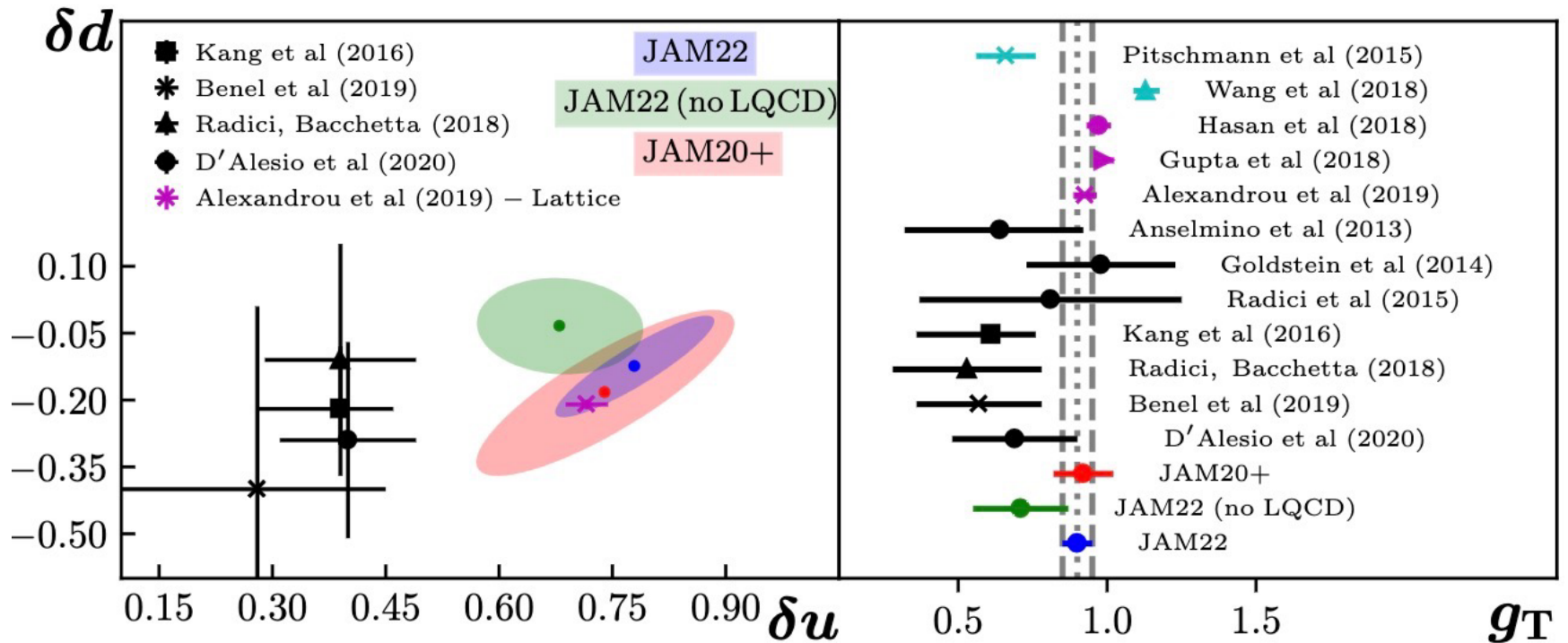
Talk by C. Flore

Tensor charges: lattice

Talk by C. Alexandrou



Tensor charges: pheno vs. lattice



Talk by D. Pitonyak

Statistical issues

- Uncertainties beyond statistics
 - parametrizations
 - unpolarised FFs & diFFs, Collins FFs

- Different statistical approaches:
 - replica method vs. MC approach
 - χ^2 's
 - correlations
 - Estimates of statistical uncertainties

Use of data

- ❑ Role of kinematical cuts imposed to select SIDIS data in the fitting procedure: target vs current fragmentation region
- ❑ data binning
- ❑ Large- x region in SIDIS
- ❑ $pp \rightarrow \pi X$
 - isolated vs non-isolated pions
 - Charged pion data