

SDCs in view of fits of PDFs and TMDs

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What a fit of PDFs may need

- 🍏 Is it possible to publish/express **explicit expressions** for SDCs in terms of initial-state partonic longitudinal-momentum fractions (x)?
 - 🍏 Such expressions could be implemented in **existing codes** used for PDF fits and exploit their computational capabilities.
 - 🍏 Having such expressions in terms of final-state momentum fractions may also eventually enable fits of quarkonium **fragmentation functions** where appropriate.
- 🍏 **Interpolation grids** (*à la* APPLgrid or FastNLO) for PDFs fits:
 - 🍏 is it possible to interface existing codes/MCs to any such tools to store SDCs in fast interpolation grids?
 - 🍏 This would also enormously facilitate phenomenological studies allowing to change *a posteriori*: PDFs, scale, α_s , etc.
- 🍏 Perhaps a vain request: can existing codes be made **public**?
 - 🍏 PDF fits require **direct control** on theoretical calculations: tune theory parameters consistently with the fit, test the calculation against other processes present in the fit, tune the numerical accuracy, control the theoretical uncertainties, etc.

What a fit of TMDs may need

- 🍏 Most of the requests/suggestions of the previous slide apply to TMDs:
 - 🍏 (quarkonium data is very appealing to pin down the poorly-known gluon TMD.)
- 🍏 Moreover:
 - 🍏 an additional complication of TMD fits is that defining the **applicability region** is not trivial.
 - 🍏 Is there a clear understanding as to where **collinear calculations break down**?
- 🍏 It is conceivable to match TMD and collinear descriptions?