

TMDplotter 2.0

News and Outlook

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Aim

Provide a centralised framework (similar to LHAPDF) to gather the TMD PDFs in a similar format to ease the comparison.

parton	uPDF/TMD set	id	#sets	Λ_{QCD}	k_T^{cut} [GeV]	Q0 [GeV]
gluon	ccfm-JS-2001	101000	1	0.25	0.25	1.4
	ccfm-setA0	101010	4	0.25	1.3	1.3
	ccfm-setB0	101020	4	0.25	0.25	1.3
	ccfm-JH-set 1	101001	1	0.25	1.33	1.33
	ccfm-JH-set 2	101002	1	0.25	1.18	1.18
	ccfm-JH-set 3	101003	1	0.25	1.35	1.35
	ccfm-JH-2013-set1	101201	13	0.2	2.2	2.2
	ccfm-JH-2013-set2	101301	13	0.2	2.2	2.2
	GBWlight	200001	1	–	–	–
	GBWcharm	200002	1	–	–	–
	KS-2013-linear	400001	1	0.3	–	–
	KS-2013-non-linear	400002	1	0.35	–	–
	Kutak-linear-scale	400003	1	0.35	–	–
	Kutak-nonlinear-scale	400004	1	0.35	–	–
	EKMP	500001	1	0.35	–	–
quark	ccfm-setA0	101010	1	0.25	1.3	1.3
	ccfm-JH-2013-set1	101201	1	0.2	2.2	2.2
	ccfm-JH-2013-set2	101301	1	0.2	2.2	2.2
	SBRs-2013-TMDPDFs	300001	1	–	–	1.55
	SBRs-2013-TMDPDFs-par	300002	1	–	–	1.55
	EKMP	500001	1	0.35	–	–

Table : TMD sets as of TMDlib 1.0.6

Aim

Provide a tool to plot and compare the TMD sets among them (similarly to the Durham PDF plotter) and with iPDF from LHAPDF.

Functionalities

- plot and compare fixed- x and $-k_T$ TMDs
- integrate TMDs over k_T to compare them to integrated PDFs
- plot the ratio of TMDs/PDFs
- (luminosity)
- (uncertainties)

Webpage

Will be available on <http://tmdplotter.desy.de>

- Go in "TMDplotter » fixed- k_t TMD"
- select gluon ccfm-JH-2013-set1
- select up-val ccfm-JH-2013-set1
- select gluon ccfm-JH-2013-set2
- select down-val ccfm-JH-2013-set2
- check "display ratio"



To-do list

- Log/linear scale
- Luminosity (ongoing)
- Uncertainties
- Advanced command-line options
- Open-source executable

Request

Please contact us in case of issue of any kind or in case of special wish!

Webpages

TMDlib <https://tmdlib.hepforge.org/doxy/html/index.html>

TMDplotter <http://tmdplotter.desy.de>

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$$\mathcal{L} = \int \delta(x - x_1 x_2) f_1(x_1) f_2(x_2) dx_1 dx_2 \quad (1)$$