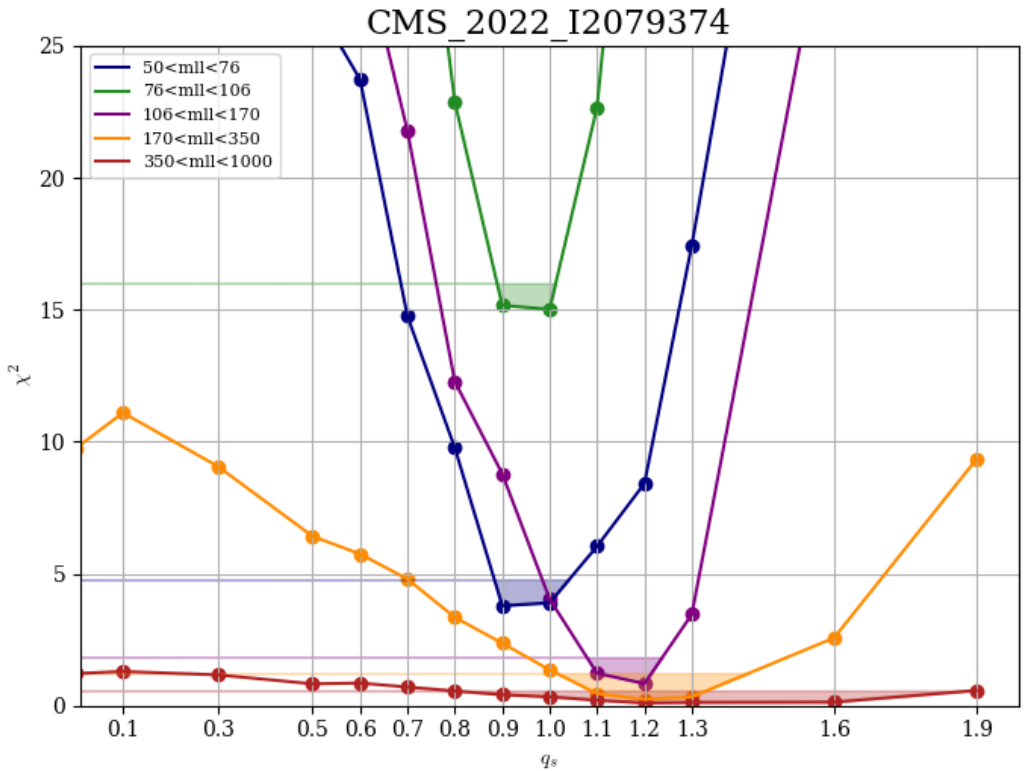
Intrinsic kt

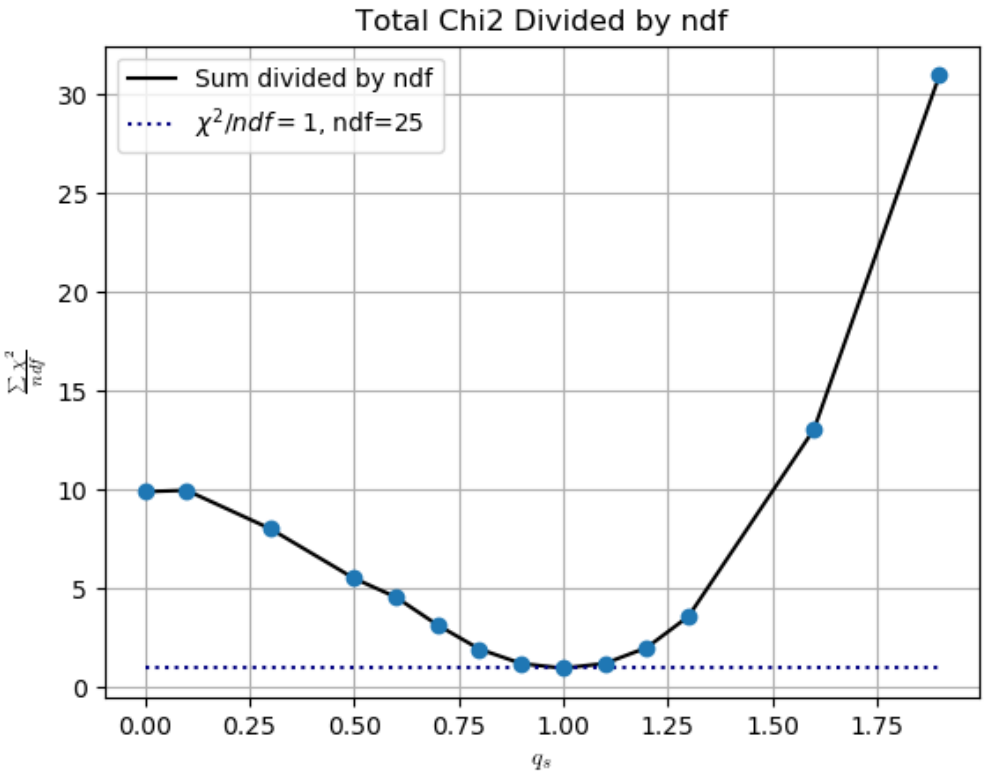
CMS_2022_I2079374

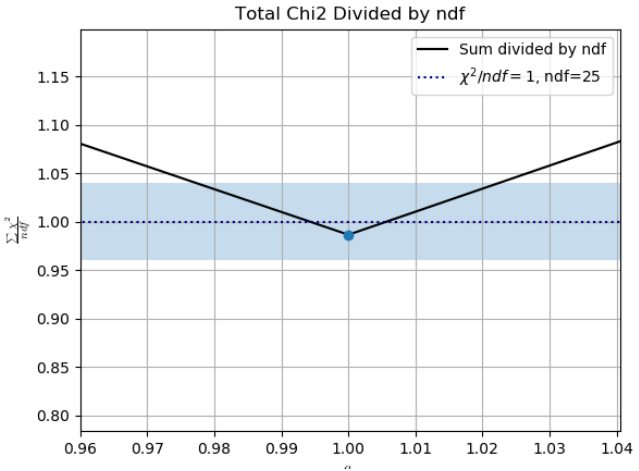


Correlated='.*model.*,.*luminosity.*,.*Lumi.*,.*Others.*,.*Backgrounds.*,.*Jet.*,.*Lepton.*,.*O thers.*,.*TMD.*,.*SCALE.*,.*correlated.*'
UnCorrelated='.*Efficiency.*,.*stat.*,.*Stat.*,.*uncor.*,.*Uncor.*,.*uncorrelated.*,.*Syst.*'

Normalization: ScaleFactor=SumDat/SumMc

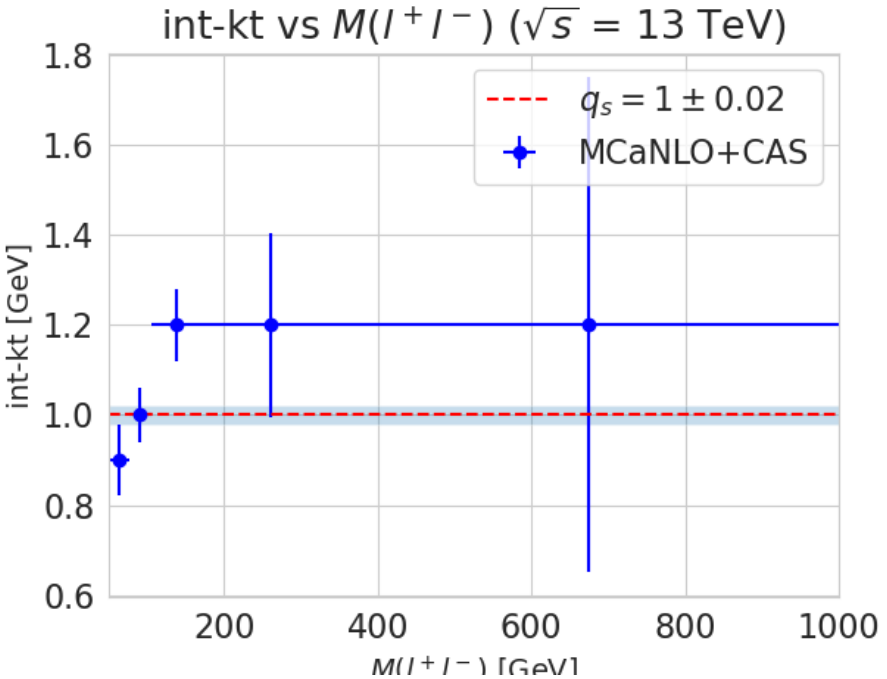
Total chi2 from CMS_2022_I2079374





$q_s = 1.0 \pm 0.02$

Total chi2 from CMS_2022_I2079374



Q_s=1.0±0.02

Uncertsinty from TMDs= 0.1 needs to be included

Other DY measurments

unCorr χ including normalization

Correlated='.*model.*,.*luminosity.*,.*Lumi.*,.*Others.*,.*Backgrounds.*,.*Jet.*,.*Lepton.*,.*O thers.*,.*TMD.*,.*SCALE.*,.*correlated.*'

UnCorrelated='.*Efficiency.*,.*stat.*,.*Stat.*,.*uncor.*,.*Uncor.*,.*uncorrelated.*,.*Syst.*, .***Correlated***'

Normalisation:

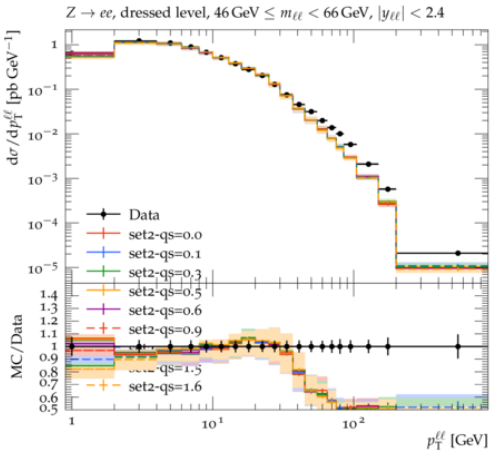
- SumDat = values['data'].copy().sum()
- SumMc = values['mc'].copy().sum()
- ScaleFactorNew=SumDat/SumMc

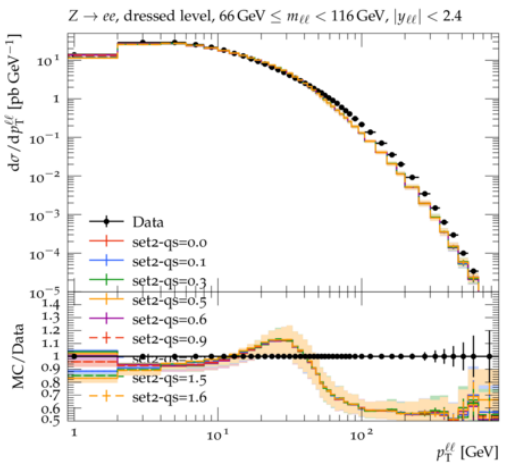
ATLAS_2015_I1408516 (√s=8 TeV)

Set 2

4 bins

Statistical & systematic uncerainty





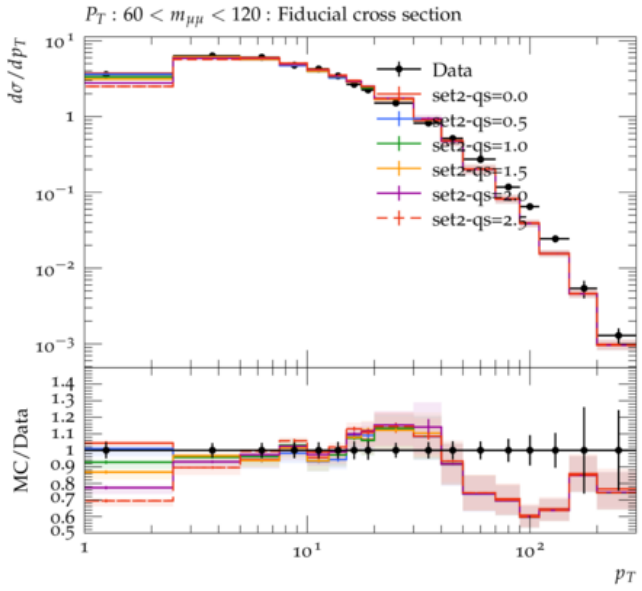
mll	0	0.1	0.3	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.6	1.9
[46-66]	9.10	10.07	7.91	6.18	4.30	2.59	2.10	**1.40**	3.74	4.54	6.87	10.57	35.19	84.67
[66-116]	174.76	170.33	144.00	95.08	70.66	44.36	23.59	10.81	**7.11**	15.38	37.41	77.21	299.23	719.71

CMS_2021_I1849180 (√s=8.1 TeV)

Set 2

5 bins

Fiducial cross-section



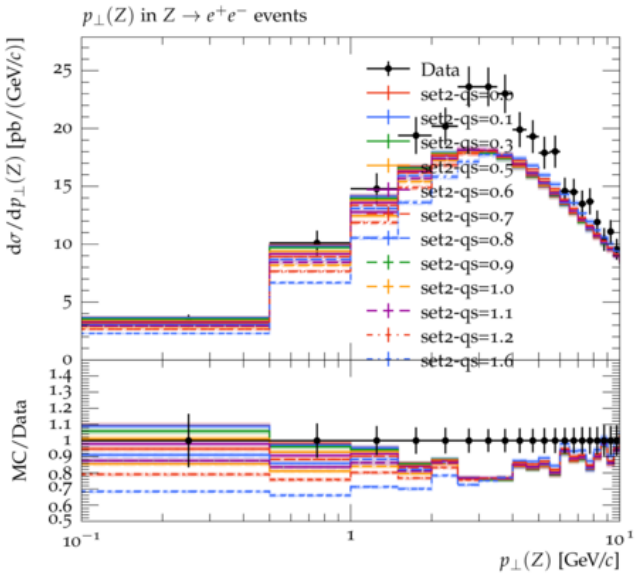
qs	0	0.1	0.3	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.6	1.9
5 bin	2.41	2.29	2.28	1.51	1.33	0.93	1.30	**1.12**	1.21	1.94	2.47	3.71	8.96	24.3

CDF_2000_S4155203 (√s=1.8 TeV)

Set 2

6 bins

Statistical & systematic uncerainty



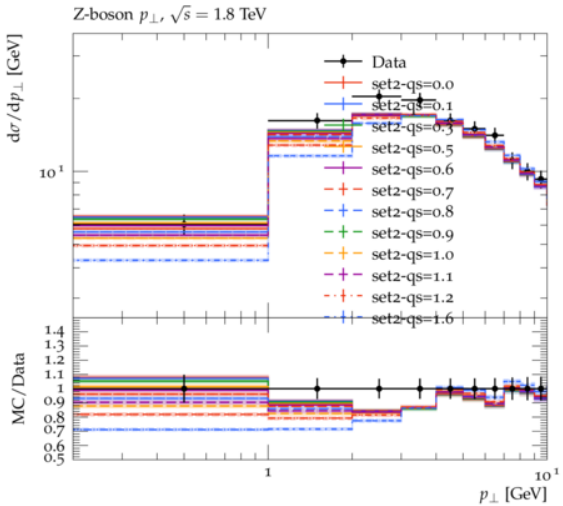
mll	0	0.1	0.3	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.6	1.9
6 bin	7.37	7.07	5.99	4.55	3.64	2.92	2.20	1.68	**1.45**	1.68	1.09	1.07	2.04	3.11

D0_2000_I503361 (√s=1.8 TeV)

Set 2

4 bins

Statistical & systematic uncerainty



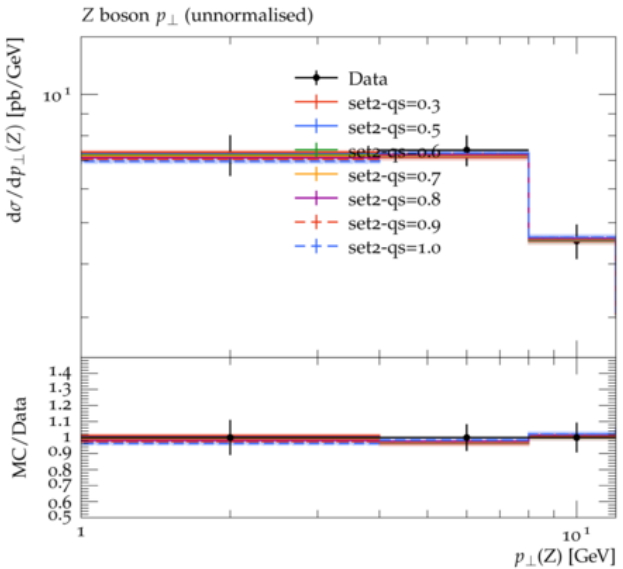
mll	0	0.1	0.3	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.6	1.9
4 bin	5.58	5.18	4.45	2.84	2.08	1.41	0.88	0.56	**0.52**	0.56	0.94	1.45	4.29	7.76

D0_2010_S8671338 (muon channel) (√s=1.96 TeV)

Set 2

3 bins

Statistical & systematic uncerainty

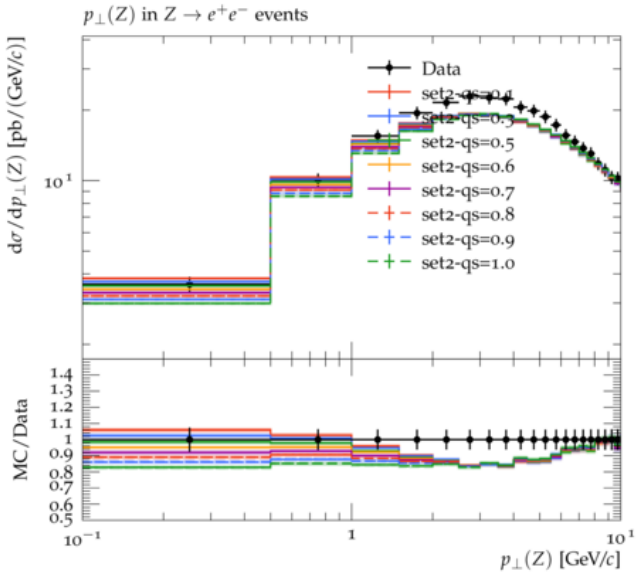


CDF_2012_I1124333 (√s=1.96 TeV)

Set 2

6 bins

Statistical & systematic uncerainty

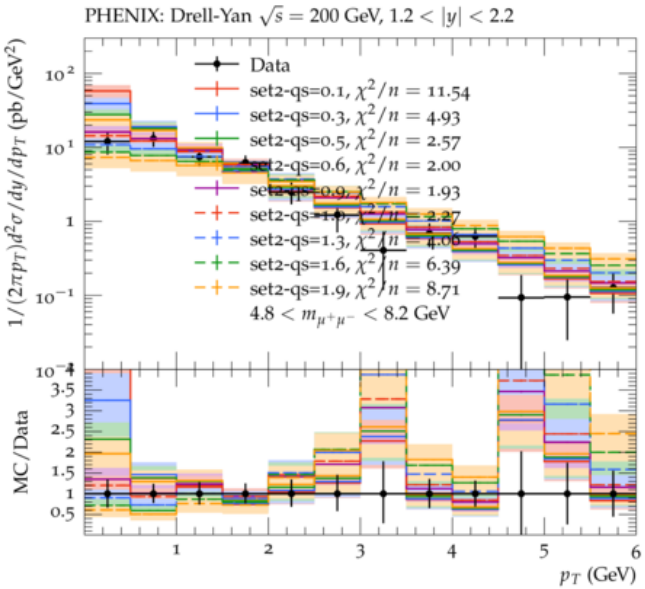


mll	0	0.1	0.3	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.6	1.9
6 bin	12.08	11.59	8.69	5.54	3.63	2.06	1.06	0.40	**0.16**	0.24	0.63	1.31	4.49	9.47

PHENIX_2019_I1672015 (√s= 200 GeV)

Set 2

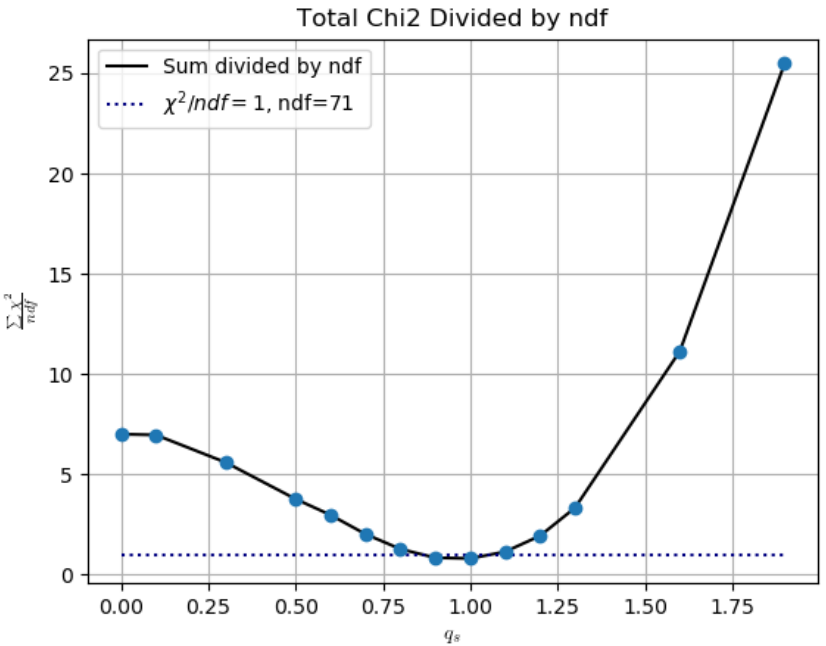
all bins=12

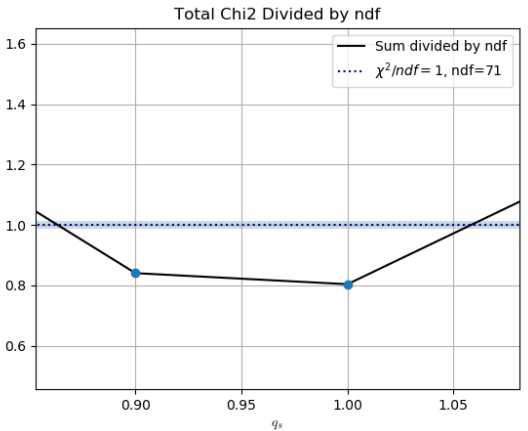


qs	0	0.1	0.3	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.6	1.9
12 bin	37.99	38.51	22.84	13.65	10.83	**9.99**	**10.58**	13.16	18.22	26.02	37.38	51.12	109.91	186.03

Global study

data	CM energy	bin
CMS_2022_I2079374	13 TeV	4*4+9
LHCb_2022_I1990313	13 TeV	5
CMS_2021_I1849180	8.1 TeV	5
ATLAS_2015_I1408516	8 TeV	4*2
CDF_2000_S4155203	1.8 TeV	6
D0_2000_I503361	1.8 TeV	4
CDF_2012_I1124333	1.96 TeV	6
PHENIX_2019_I1672015	200 GeV	12
total		71





$q_s \in [0.86\text{-}1.06]$