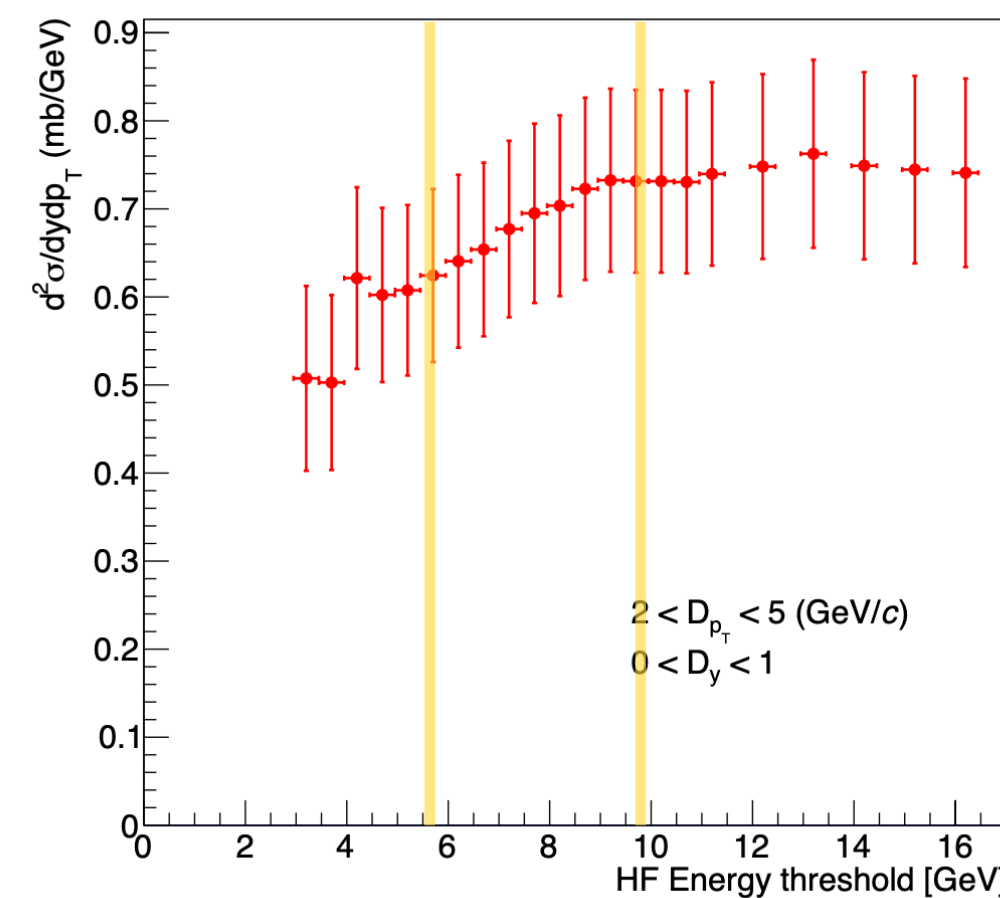
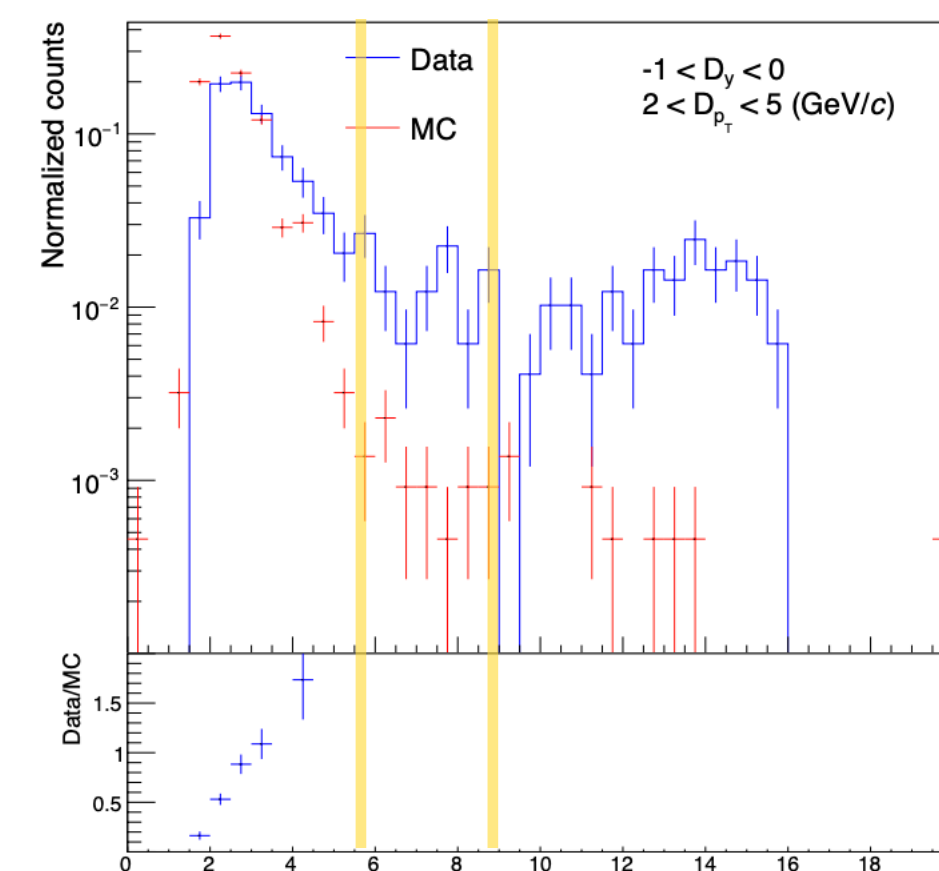


Low- p_T UPC D^0 analysis using '23 UPC reconstruction data

- CADI has been opened [HIN-25-002](#), [AN-2025/015](#)
- Studies on systematic are ongoing
 - All D selection systematics are in main analysis framework
 - Left with peaking-background modeling, f_{prompt} , and MC reweighting systematics
 - Data-MC efficiency differences w/ rapidity gap energy threshold scan are consistent with previous analysis at a first look (HIN-24-003)
 - There is possibly larger hadronic contamination in the low- p_T bin c.f. high- p_T analysis
 - We could check the hadronic-background-free emptyBx sample to study the genuine HF noise distributions in data
 - Would consider a less conservative variation (c.f. last year) once we understand the data/MC difference



γN corrected yields



$N_\gamma E_{\text{max}}$ distributions in HF minus

- Plan to revisit the current systematics strategy once we have the first assessment of all systematics pieces

Backup

Systematic breakdown

yN

	EvtSel		0.45		0.26		0.33		0.56	
	RapGap		8.56		6.64		15.38		18.08	
	Dsvpv		10.35		4.34		5.31		12.09	
	DtrkPt		2.42		4.75		5.92		6.03	
	Dalpha		0.45		5.04		3.16		15.24	
	Dchi2cl		5.08		2.43		0.47		1.65	
	FitSig		0.35		0.15		0.15		0.12	
	FitComb		0.27		10.22		0.21		2.44	
	Total		21.29		21.49		23.47		31.49	

Ny

	EvtSel		0.36		0.23		0.19		0.28	
	RapGap		11.55		6.97		6.39		11.54	
	Dsvpv		1.79		7.01		3.89		9.65	
	DtrkPt		3.57		9.04		19.30		6.54	
	Dalpha		5.21		2.68		4.90		10.38	
	Dchi2cl		9.48		2.43		0.22		1.15	
	FitSig		0.32		0.04		0.13		0.02	
	FitComb		3.54		2.31		11.96		7.37	
	Total		22.80		20.94		28.92		25.94	