

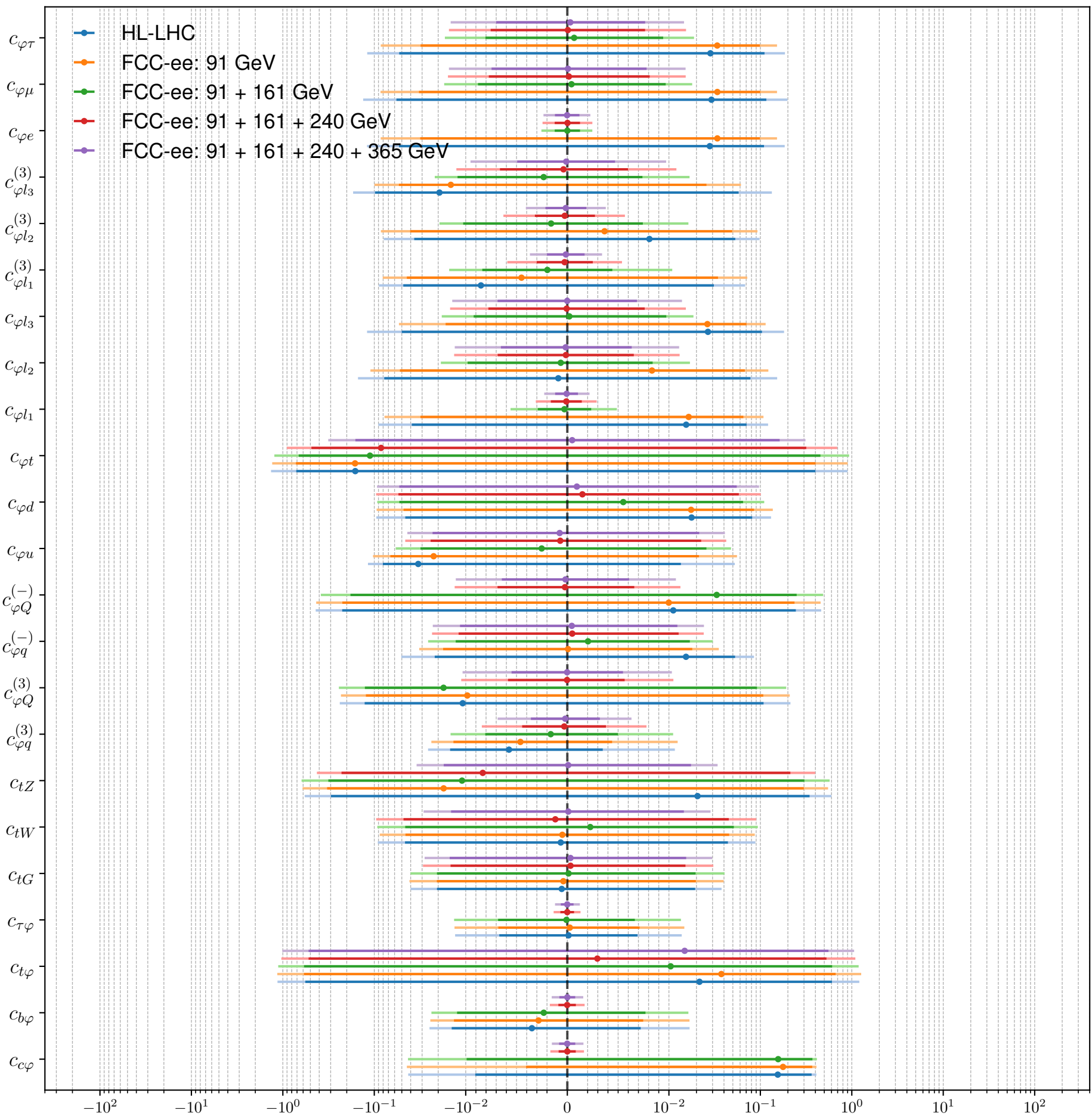
		HL-LHC		FCC-ee: 91 GeV		FCC-ee: 91 + 161 GeV		FCC-ee: 91 + 161 + 240 GeV	
Class	Coefficients	Fitted	Fixed	Fitted	Fixed	Fitted	Fixed	Fitted	Fixed
2FB	$c_{c\varphi}$	✓		✓		✓		✓	
	$c_{b\varphi}$	✓		✓		✓		✓	
	$c_{t\varphi}$	✓		✓		✓		✓	
	$c_{\tau\varphi}$	✓		✓		✓		✓	
	$c_{tG}$	✓		✓		✓		✓	
	$c_{tW}$	✓		✓		✓		✓	
	$c_{tZ}$	✓		✓		✓		✓	
	$c_{\varphi q}^{(3)}$	✓		✓		✓		✓	
	$c_{\varphi Q}^{(3)}$	✓		✓		✓		✓	
	$c_{\varphi q}^{(-)}$	✓		✓		✓		✓	
	$c_{\varphi Q}^{(-)}$	✓		✓		✓		✓	
	$c_{\varphi u}$	✓		✓		✓		✓	
	$c_{\varphi d}$	✓		✓		✓		✓	
	$c_{\varphi t}$	✓		✓		✓		✓	
	$c_{\varphi l_1}$	✓		✓		✓		✓	
	$c_{\varphi l_2}$	✓		✓		✓		✓	
	$c_{\varphi l_3}$	✓		✓		✓		✓	
	$c_{\varphi l_1}^{(3)}$	✓		✓		✓		✓	
	$c_{\varphi l_2}^{(3)}$	✓		✓		✓		✓	
	$c_{\varphi l_3}^{(3)}$	✓		✓		✓		✓	
	$c_{\varphi e}$	✓		✓		✓		✓	
	$c_{\varphi \mu}$	✓		✓		✓		✓	
	$c_{\varphi \tau}$	✓		✓		✓		✓	
4l	$c_{ll}$	✓		✓		✓		✓	
B	$c_{\varphi G}$	✓		✓		✓		✓	
	$c_{\varphi B}$	✓		✓		✓		✓	
	$c_{\varphi W}$	✓		✓		✓		✓	
	$c_{\varphi WB}$	✓		✓		✓		✓	
	$c_{WWWW}$	✓		✓		✓		✓	
	$c_{\varphi \square}$	✓		✓		✓		✓	
	$c_{\varphi D}$	✓		✓		✓		✓	
	Number fitted coefficients	31		31		31		31	

Table 1: Coefficient comparison

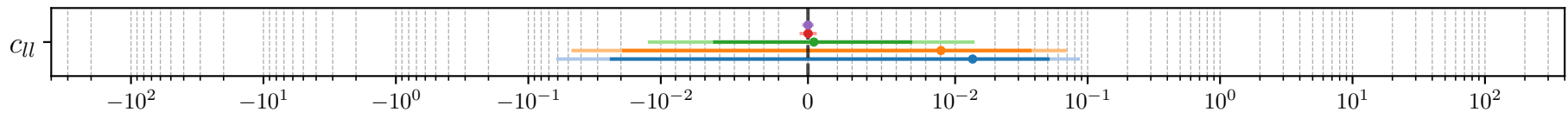
Type	Datasets	HL-LHC	FCC-ee: 91 GeV	FCC-ee: 91 + 161 GeV	FCC-ee: 91 + 161 + 240 GeV
4H	ATLAS_ttbb_13TeV_2016	✓	✓	✓	✓
	ATLAS_tttt_13TeV_run2	✓	✓	✓	✓
	ATLAS_tttt_13TeV_slep_inc	✓	✓	✓	✓
	ATLAS_tttt_13TeV_2023	✓	✓	✓	✓
	CMS_ttbb_13TeV	✓	✓	✓	✓
	CMS_ttbb_13TeV_2016	✓	✓	✓	✓
	CMS_ttbb_13TeV_dilepton_inc	✓	✓	✓	✓
	CMS_ttbb_13TeV_ljets_inc	✓	✓	✓	✓
	CMS_tttt_13TeV	✓	✓	✓	✓
	CMS_tttt_13TeV_run2	✓	✓	✓	✓
	CMS_tttt_13TeV_slep_inc	✓	✓	✓	✓
	CMS_tttt_13TeV_2023	✓	✓	✓	✓
HrunI	ATLAS_CMS_SSinc_RunI	✓	✓	✓	✓
	ATLAS_SSinc_RunII	✓	✓	✓	✓
	CMS_SSinc_RunII	✓	✓	✓	✓
	ATLAS_WH_Hbb_13TeV	✓	✓	✓	✓
	ATLAS_ZH_Hbb_13TeV	✓	✓	✓	✓
	ATLAS_ggF_13TeV_2015	✓	✓	✓	✓
	ATLAS_ggF_ZZ_13TeV	✓	✓	✓	✓
	CMS_H_13TeV_2015_pTH	✓	✓	✓	✓
	CMS_ggF_aa_13TeV	✓	✓	✓	✓
	ATLAS_STXS_runII_13TeV	✓	✓	✓	✓
LEP	LEP1_EWPOs_2006	✓	✓	✓	✓
	LEP_Bhabha_2013	✓	✓	✓	✓
	LEP_Brw_2013	✓	✓	✓	✓
	LEP_alphaEW	✓	✓	✓	✓
VV	ATLAS_WW_13TeV_2016_memu	✓	✓	✓	✓
	ATLAS_WZ_13TeV_2016_mTWZ	✓	✓	✓	✓
	CMS_WZ_13TeV_2016_pTZ	✓	✓	✓	✓
	CMS_WZ_13TeV_2022_pTZ	✓	✓	✓	✓
	LEP_eeWW_182GeV	✓	✓	✓	✓
	LEP_eeWW_189GeV	✓	✓	✓	✓
	LEP_eeWW_198GeV	✓	✓	✓	✓
	LEP_eeWW_206GeV	✓	✓	✓	✓
t8	ATLAS_t_sch_8TeV	✓	✓	✓	✓
	ATLAS_t_tch_8TeV_diff_Yt	✓	✓	✓	✓
	CMS_t_sch_8TeV	✓	✓	✓	✓
	CMS_t_tch_8TeV_diff_Yt	✓	✓	✓	✓
	CMS_t_tch_8TeV_inc	✓	✓	✓	✓
	ATLAS_t_sch_13TeV_inc	✓	✓	✓	✓
	ATLAS_t_tch_13TeV_inc	✓	✓	✓	✓
	CMS_t_tch_13TeV_2016_diff_Yt	✓	✓	✓	✓
	CMS_t_tch_13TeV_2019_diff_Yt	✓	✓	✓	✓
	CMS_t_tch_13TeV_inc	✓	✓	✓	✓
tW	ATLAS_tW_13TeV_inc	✓	✓	✓	✓
	ATLAS_tW_8TeV_inc	✓	✓	✓	✓
	ATLAS_tW_slep_8TeV_inc	✓	✓	✓	✓
	CMS_tW_13TeV_inc	✓	✓	✓	✓
	CMS_tW_13TeV_slep_inc	✓	✓	✓	✓
	CMS_tW_8TeV_inc	✓	✓	✓	✓
	ATLAS_tZ_13TeV_inc	✓	✓	✓	✓
	ATLAS_tZ_13TeV_run2_inc	✓	✓	✓	✓
	CMS_tZ_13TeV_2016_inc	✓	✓	✓	✓
	CMS_tZ_13TeV_inc	✓	✓	✓	✓
	CMS_tZ_13TeV_pTt	✓	✓	✓	✓
	ATLAS_tt_8TeV_dilep_Mtt	✓	✓	✓	✓
	ATLAS_tt_8TeV_ljets_Mtt	✓	✓	✓	✓
	CMS_tt2D_8TeV_dilep_MttYtt	✓	✓	✓	✓
	CMS_tt_8TeV_ljets_Ytt	✓	✓	✓	✓
	ATLAS_tt_13TeV_ljets_2016_Mtt	✓	✓	✓	✓
	CMS_tt_13TeV_Mtt	✓	✓	✓	✓

	CMS_tt_13TeV_dilep_2015_Mtt	✓	✓	✓	✓
	CMS_tt_13TeV_dilep_2016_Mtt	✓	✓	✓	✓
	CMS_tt_13TeV_ljets_2015_Mtt	✓	✓	✓	✓
	CMS_tt_13TeV_ljets_2016_Mtt	✓	✓	✓	✓
	CMS_tt_13TeV_ljets_inc	✓	✓	✓	✓
	ATLAS_WhelF_8TeV	✓	✓	✓	✓
	ATLAS_Whel_13TeV	✓	✓	✓	✓
	CMS_WhelF_8TeV	✓	✓	✓	✓
	ATLAS_CMS_tt_AC_8TeV	✓	✓	✓	✓
	ATLAS_tt_13TeV_asy_2022	✓	✓	✓	✓
	CMS_tt_13TeV_asy	✓	✓	✓	✓
ttV	ATLAS_ttZ_13TeV	✓	✓	✓	✓
	ATLAS_ttZ_13TeV_2016	✓	✓	✓	✓
	ATLAS_ttZ_13TeV_pTZ	✓	✓	✓	✓
	ATLAS_ttZ_8TeV	✓	✓	✓	✓
	CMS_ttZ_13TeV	✓	✓	✓	✓
	CMS_ttZ_13TeV_pTZ	✓	✓	✓	✓
	CMS_ttZ_8TeV	✓	✓	✓	✓
	ATLAS_ttW_13TeV	✓	✓	✓	✓
	ATLAS_ttW_13TeV_2016	✓	✓	✓	✓
	ATLAS_ttW_8TeV	✓	✓	✓	✓
	CMS_ttW_13TeV	✓	✓	✓	✓
	CMS_ttW_8TeV	✓	✓	✓	✓
tta	ATLAS_tta_8TeV	✓	✓	✓	✓
	CMS_tta_8TeV	✓	✓	✓	✓

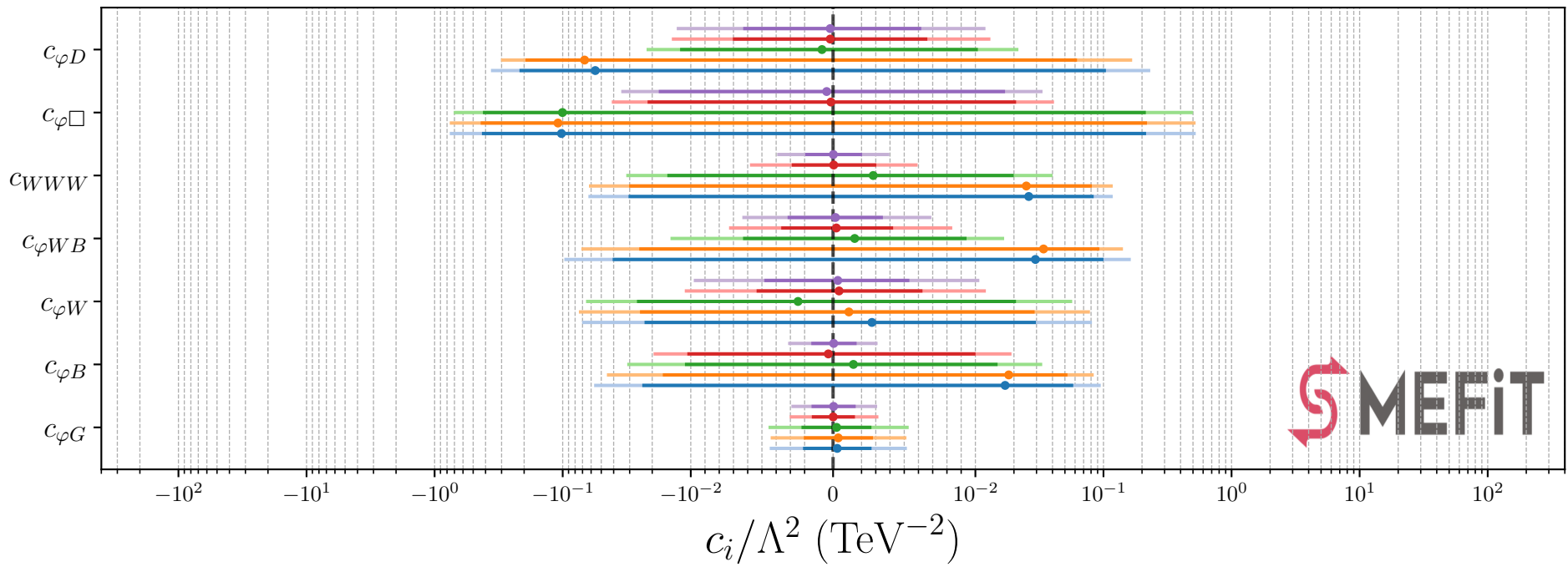
Table 1: Dataset comparison

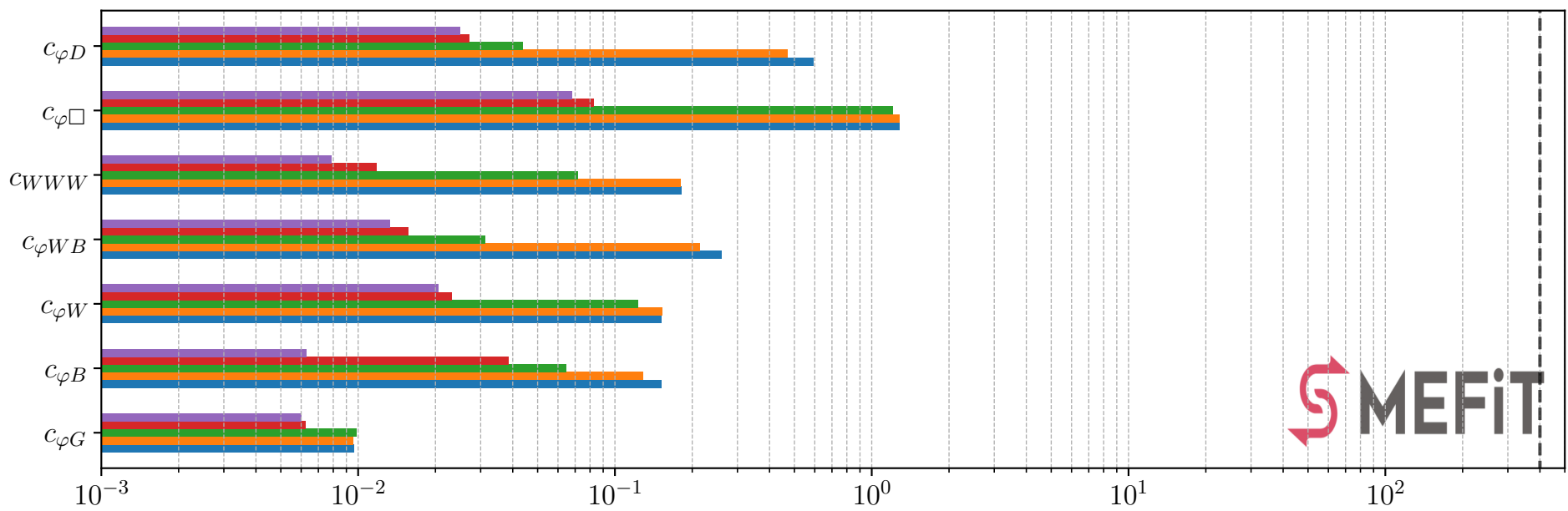
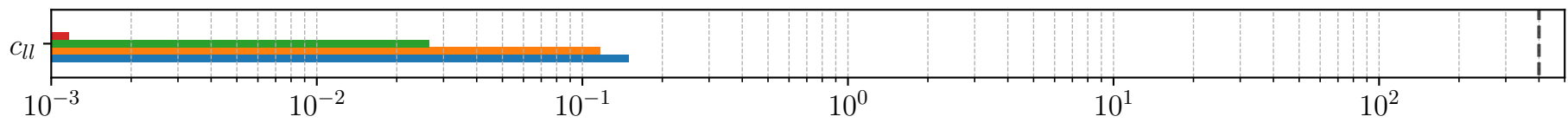
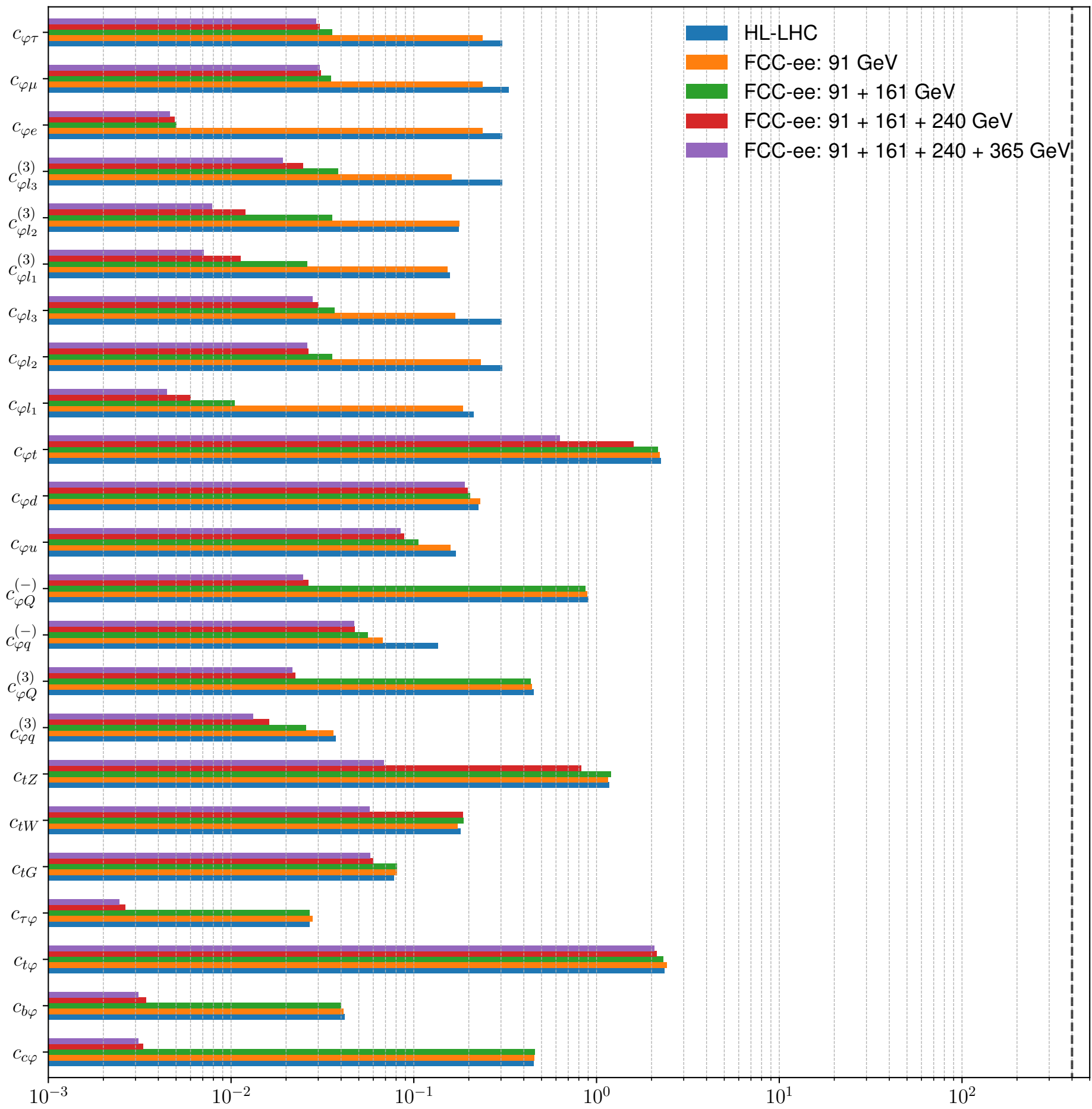


4l

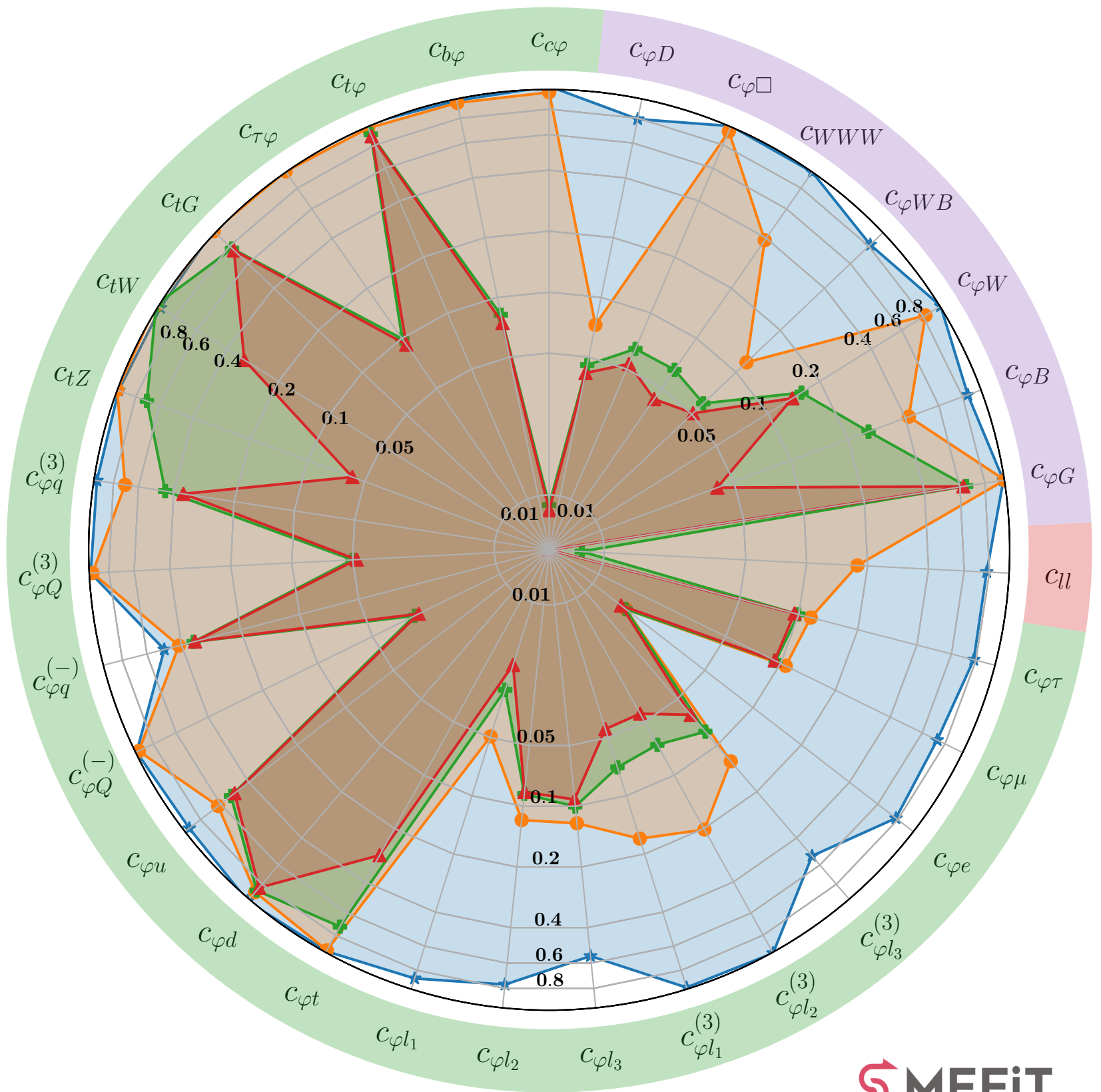


B

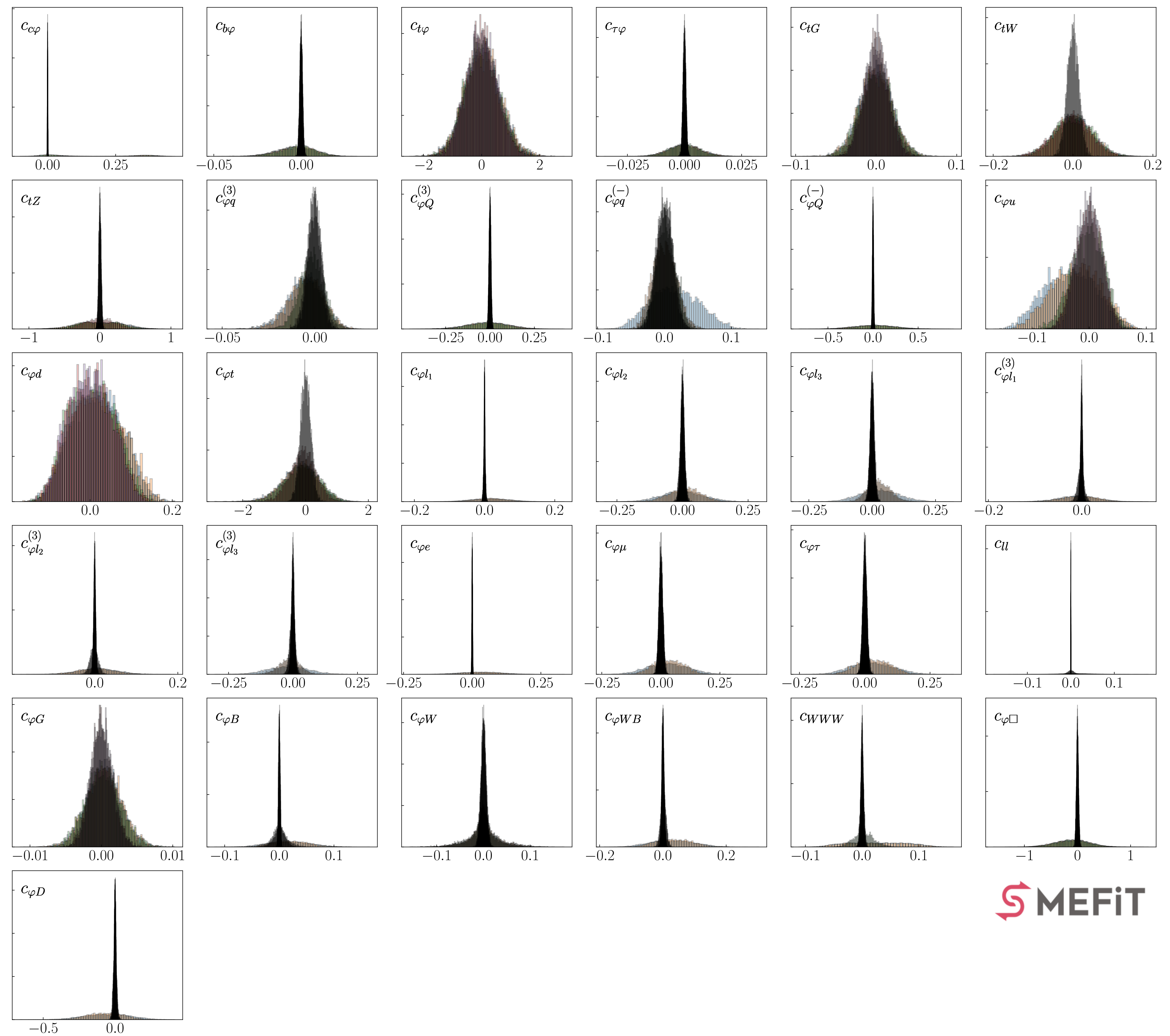




Ratio of Uncertainties to HL – LHC Baseline,  $\mathcal{O}(\Lambda^{-4})$ , Marginalised



FCC-ee: 91 GeV
  FCC-ee: 91 + 161 GeV
  FCC-ee: 91 + 161 + 240 GeV
  FCC-ee: 91 + 161 + 240 + 350 GeV



		HL-LHC			FCC-ee: 91 GeV			FCC-hh: 100 GeV	
Class	Coefficients	best	68% CL Bounds	95% CL Bounds	best	68% CL Bounds	95% CL Bounds	best	68% CL Bounds
2FB	$c_{c\varphi}$	0.155	[-0.009,0.363]	[-0.043,0.41]	0.177	[-0.004,0.369]	[-0.044,0.411]	0.157	[-0.009,0.363]
	$c_{b\varphi}$	-0.003	[-0.014,0.007]	[-0.025,0.017]	-0.003	[-0.013,0.007]	[-0.024,0.017]	-0.002	[-0.013,0.007]
	$c_{t\varphi}$	0.022	[-0.568,0.607]	[-1.144,1.208]	0.037	[-0.588,0.665]	[-1.15,1.267]	0.01	[-0.588,0.665]
	$c_{\tau\varphi}$	0.0	[-0.007,0.007]	[-0.013,0.014]	0.0	[-0.007,0.007]	[-0.013,0.015]	-0.0	[-0.007,0.007]
	$c_{tG}$	-0.001	[-0.021,0.019]	[-0.04,0.038]	-0.0	[-0.021,0.02]	[-0.041,0.04]	0.0	[-0.021,0.02]
	$c_{tW}$	-0.001	[-0.046,0.044]	[-0.092,0.088]	-0.0	[-0.046,0.046]	[-0.087,0.087]	0.002	[-0.046,0.046]
	$c_{tZ}$	0.021	[-0.298,0.345]	[-0.577,0.599]	-0.017	[-0.328,0.299]	[-0.608,0.55]	-0.011	[-0.328,0.299]
	$c_{\varphi q}^{(3)}$	-0.006	[-0.015,0.003]	[-0.026,0.012]	-0.005	[-0.014,0.004]	[-0.024,0.012]	-0.002	[-0.014,0.004]
	$c_{\varphi Q}^{(3)}$	-0.011	[-0.127,0.108]	[-0.238,0.213]	-0.01	[-0.123,0.108]	[-0.232,0.21]	-0.017	[-0.123,0.108]
	$c_{\varphi q}^{(-)}$	0.015	[-0.022,0.053]	[-0.051,0.085]	0.0	[-0.018,0.018]	[-0.032,0.035]	0.002	[-0.018,0.018]
	$c_{\varphi Q}^{(-)}$	0.011	[-0.224,0.244]	[-0.437,0.463]	0.01	[-0.223,0.236]	[-0.432,0.456]	0.033	[-0.223,0.236]
	$c_{\varphi u}$	-0.033	[-0.081,0.014]	[-0.117,0.052]	-0.022	[-0.067,0.021]	[-0.103,0.056]	-0.003	[-0.067,0.021]
	$c_{\varphi d}$	0.018	[-0.046,0.081]	[-0.095,0.131]	0.017	[-0.048,0.085]	[-0.094,0.137]	0.006	[-0.048,0.085]
	$c_{\varphi t}$	-0.161	[-0.713,0.4]	[-1.346,0.899]	-0.162	[-0.719,0.402]	[-1.308,0.901]	-0.112	[-0.719,0.402]
	$c_{\varphi l_1}$	0.015	[-0.039,0.071]	[-0.09,0.121]	0.016	[-0.031,0.065]	[-0.077,0.108]	-0.0	[-0.031,0.065]
	$c_{\varphi l_2}$	-0.001	[-0.078,0.078]	[-0.151,0.153]	0.008	[-0.052,0.068]	[-0.11,0.122]	-0.001	[-0.052,0.068]
	$c_{\varphi l_3}$	0.027	[-0.05,0.104]	[-0.12,0.182]	0.026	[-0.017,0.071]	[-0.054,0.114]	0.0	[-0.017,0.071]
	$c_{\varphi l_1}^{(3)}$	-0.009	[-0.048,0.031]	[-0.089,0.068]	-0.005	[-0.044,0.034]	[-0.081,0.072]	-0.002	[-0.044,0.034]
	$c_{\varphi l_2}^{(3)}$	0.008	[-0.037,0.053]	[-0.079,0.098]	0.004	[-0.041,0.049]	[-0.085,0.093]	-0.002	[-0.041,0.049]
	$c_{\varphi l_3}^{(3)}$	-0.019	[-0.098,0.058]	[-0.17,0.134]	-0.015	[-0.054,0.026]	[-0.1,0.061]	-0.002	[-0.054,0.026]
	$c_{\varphi e}$	0.028	[-0.054,0.11]	[-0.12,0.185]	0.034	[-0.031,0.099]	[-0.085,0.152]	0.0	[-0.031,0.099]
	$c_{\varphi \mu}$	0.029	[-0.057,0.116]	[-0.132,0.198]	0.034	[-0.032,0.1]	[-0.085,0.152]	0.0	[-0.032,0.1]
	$c_{\varphi \tau}$	0.028	[-0.053,0.111]	[-0.12,0.186]	0.034	[-0.031,0.099]	[-0.085,0.152]	0.001	[-0.031,0.099]
4l	$c_{ll}$	0.014	[-0.024,0.052]	[-0.062,0.087]	0.009	[-0.02,0.038]	[-0.047,0.07]	0.0	[-0.02,0.038]
B	$c_{\varphi G}$	0.0	[-0.002,0.003]	[-0.004,0.005]	0.0	[-0.002,0.003]	[-0.004,0.005]	0.0	[-0.002,0.003]
	$c_{\varphi B}$	0.017	[-0.024,0.058]	[-0.057,0.095]	0.018	[-0.017,0.052]	[-0.045,0.084]	0.001	[-0.017,0.052]
	$c_{\varphi W}$	0.003	[-0.023,0.03]	[-0.071,0.081]	0.001	[-0.025,0.029]	[-0.075,0.078]	-0.002	[-0.025,0.029]
	$c_{\varphi WB}$	0.029	[-0.041,0.1]	[-0.097,0.163]	0.034	[-0.025,0.093]	[-0.071,0.142]	0.002	[-0.025,0.093]
	$c_{WWWW}$	0.026	[-0.031,0.084]	[-0.063,0.118]	0.025	[-0.03,0.081]	[-0.062,0.118]	0.003	[-0.03,0.081]
	$c_{\varphi \square}$	-0.102	[-0.427,0.215]	[-0.761,0.525]	-0.109	[-0.437,0.219]	[-0.762,0.524]	-0.1	[-0.437,0.219]
	$c_{\varphi D}$	-0.056	[-0.217,0.105]	[-0.363,0.232]	-0.067	[-0.195,0.062]	[-0.303,0.167]	-0.001	[-0.195,0.062]

Table 1: Coefficient comparison