

SMEFT fits at Future Colliders

Higgs Hunting 2026

17/09/26



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[[arXiv:2604.16596](#)], with T. Armadillo, E. Celada, J. ter Hoeve, F. Maltoni, L. Mantani, J. Rojo, A. N. Rossia, S. Tentori, and E. Vryonidou

[[arXiv:2608.05874](#)], with E. Celada, E. Hammou, and J. ter Hoeve



The SMEFiT framework



1-loop RG running
interfaced to Wilson

[1804.05033]

Fitting: Analytic solution
or Nested Sampling



Website:

smefit.science

with **documentation**
& **tutorial**



Fully public: code,
theory, projections

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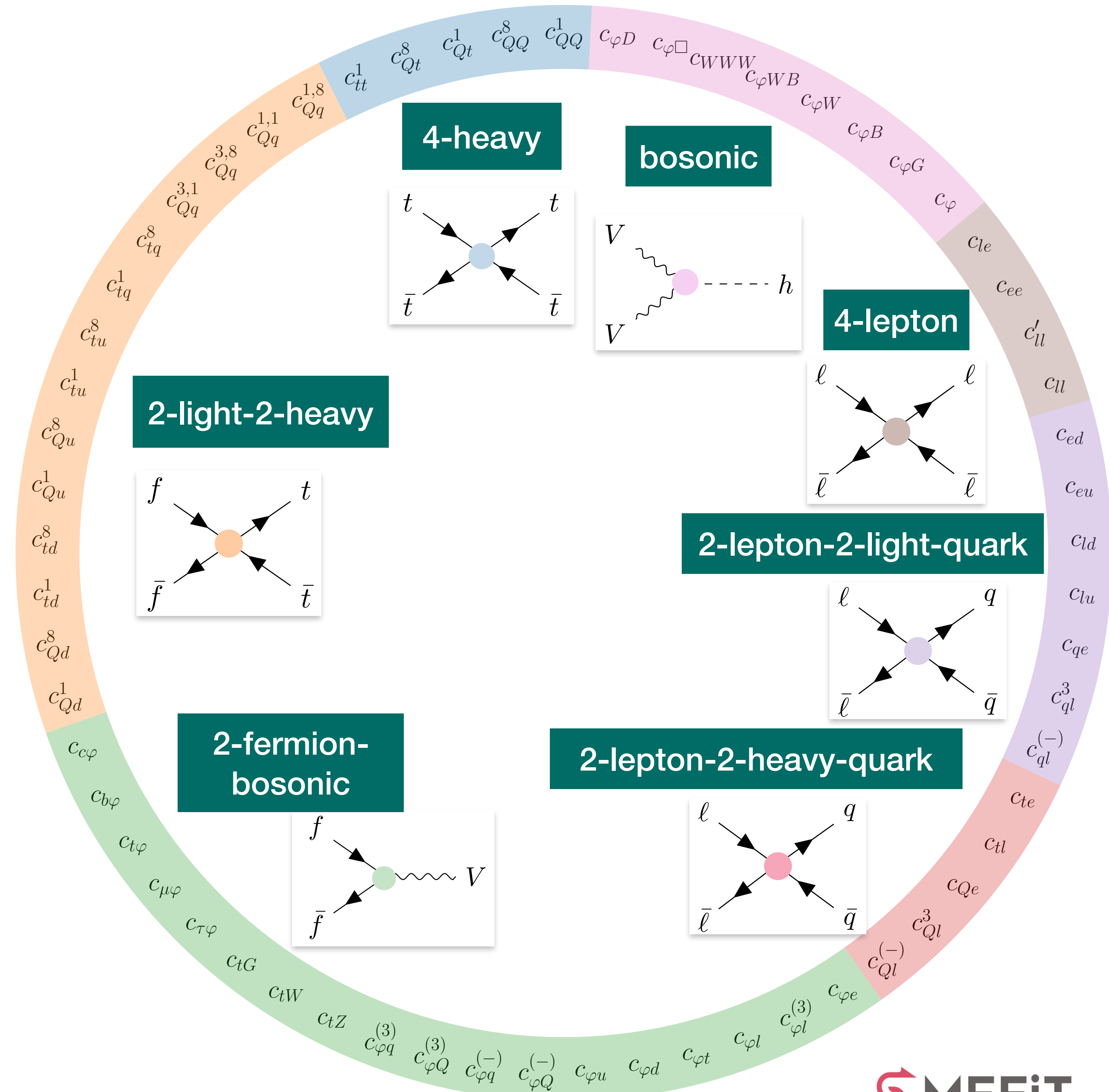
Fully public: code,
theory, projections

Collider	Initial state	Geometry, # IPs	Beam Polarisation (e^-, e^+)	Energy ($\sqrt{s}$)	Luminosity ($\mathcal{L}_{\text{int}}$)
LEP3 	e^+e^-	Circular, 2 IPs	Unpolarised	91.2 GeV	48 ab^{-1}
				160 GeV	5.6 ab^{-1}
				230 GeV	2.304 ab^{-1}
FCC-ee 	e^+e^-	Circular, 4 IPs	Unpolarised	91.2 GeV	205 ab^{-1}
				161 GeV	19.2 ab^{-1}
				240 GeV	10.8 ab^{-1}
LCF 	e^+e^-	Linear, 1 IP	$(\mp 80\%, \pm 30\%)$	91.2 GeV	0.1 ab^{-1}
				250 GeV	3 ab^{-1}
			$(\mp 80\%, \pm 20\%)$	350 GeV	0.2 ab^{-1}
				550 GeV	4 (8) ab^{-1}
				1000 GeV	8 (0) ab^{-1}

SMEFiT theory settings

Simultaneous fit of
61 dim-6 CP-even Wilson coefficients

- $U(2)_q \times U(3)_d \times U(2)_u \times U(3)_l \times U(3)_e$
- **Linear and quadratic** EFT corrections
- NLO QCD for (HL)-LHC, NLO EW for Zh in lepton colliders, LO everywhere else
- **1-loop RGE effects** from $\mu_0 = 10$ TeV down to observable scale
- **Theory uncertainties** on SM predictions: current, conservative, **aggressive**, ideal scenarios



Experimental input

Baseline:

- **536 data points** from Higgs, top, diboson, Drell-Yan, Zjj (**LHC**) and EWPOs (**LEP**)
- **HL-LHC projections:** extrapolated from LHC Run 2 + dedicated projections for $H, HH, t\bar{t}$ production



Z-pole EWPOs

Higgs production in hZ and $h\nu\nu$ channels
+ Higgs decays

Diboson (W^+W^-) production

Light fermion pair production

Total and partial W decay widths



Top-pair production



Higgs pair production in Zhh
and $hh\nu\nu$ channels

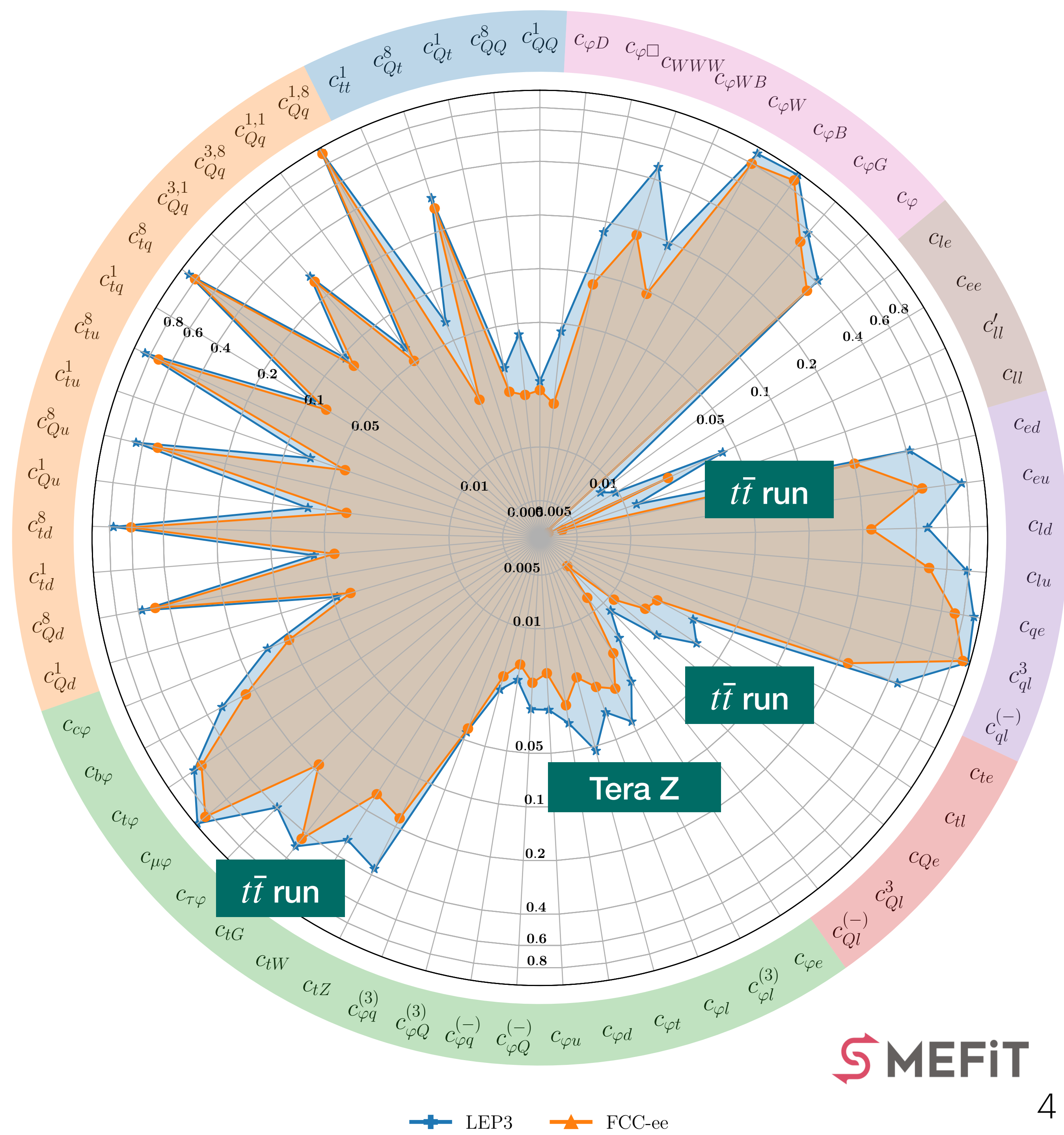
$t\bar{t}h$ production

Linear individual results

[arXiv:2604.16596] T. Armadillo, E. Celada, J. ter Hoeve, F. Maltoni, L. Mantani, J. Rojo, A. N. Rossia, S. Tentori, M.T., and E. Vryonidou

- Improvement to HL-LHC by **factor of ~ 20** for many coefficients at FCC-ee
- Strong constraints on coefficients entering Z-pole** at LEP3 and FCC-ee

$$R_{\delta c_i} = \frac{[c_i^{\min}, c_i^{\max}]^{95\% \text{ CI}} (\text{HL-LHC} + \text{future collider})}{[c_i^{\min}, c_i^{\max}]^{95\% \text{ CI}} (\text{HL-LHC})}$$

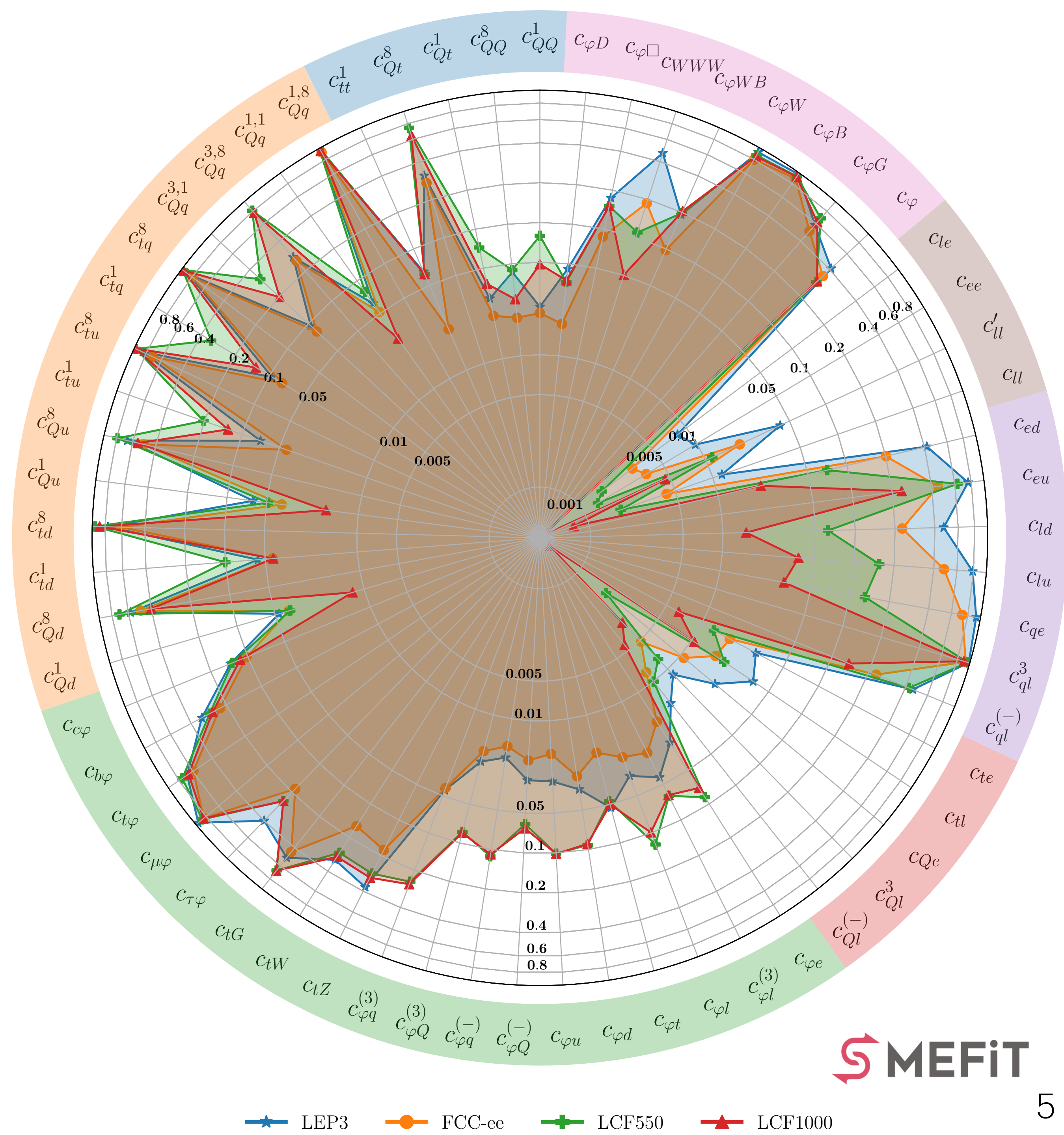


Linear individual results

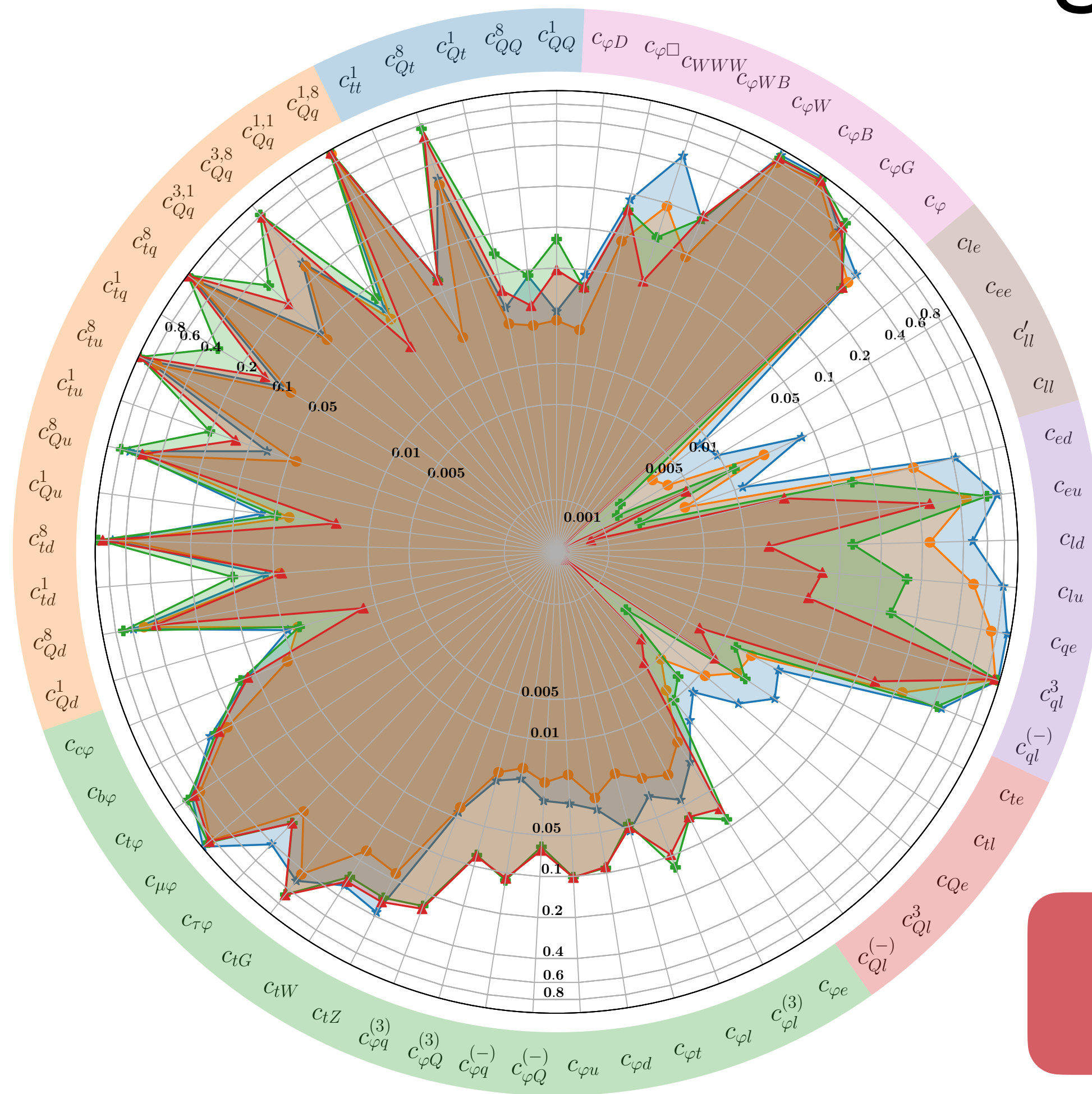
[arXiv:2604.16596] T. Armadillo, E. Celada, J. ter Hoeve, F. Maltoni, L. Mantani, J. Rojo, A. N. Rossia, S. Tentori, M.T., and E. Vryonidou

- Improvement to HL-LHC by **factor of ~ 20** for many coefficients at FCC-ee
- Strong constraints on coefficients entering Z-pole** at LEP3 and FCC-ee
- LCF dominates on **$2\ell 2q$** and **4ℓ** WCs

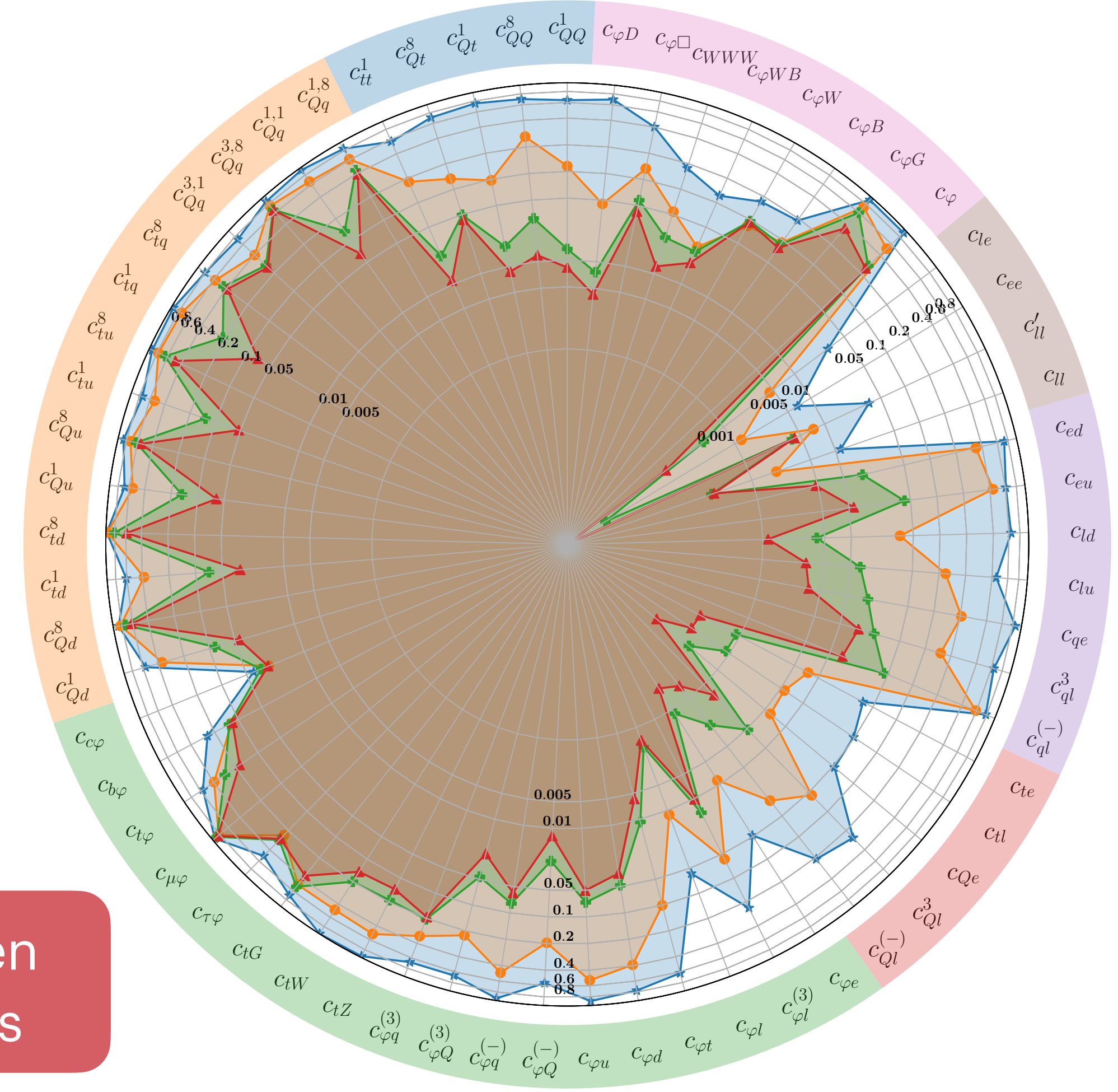
$$R_{\delta c_i} = \frac{[c_i^{\min}, c_i^{\max}]^{95\% \text{ CI}} (\text{HL-LHC} + \text{future collider})}{[c_i^{\min}, c_i^{\max}]^{95\% \text{ CI}} (\text{HL-LHC})}$$



Individual versus marginalised fits



Individual

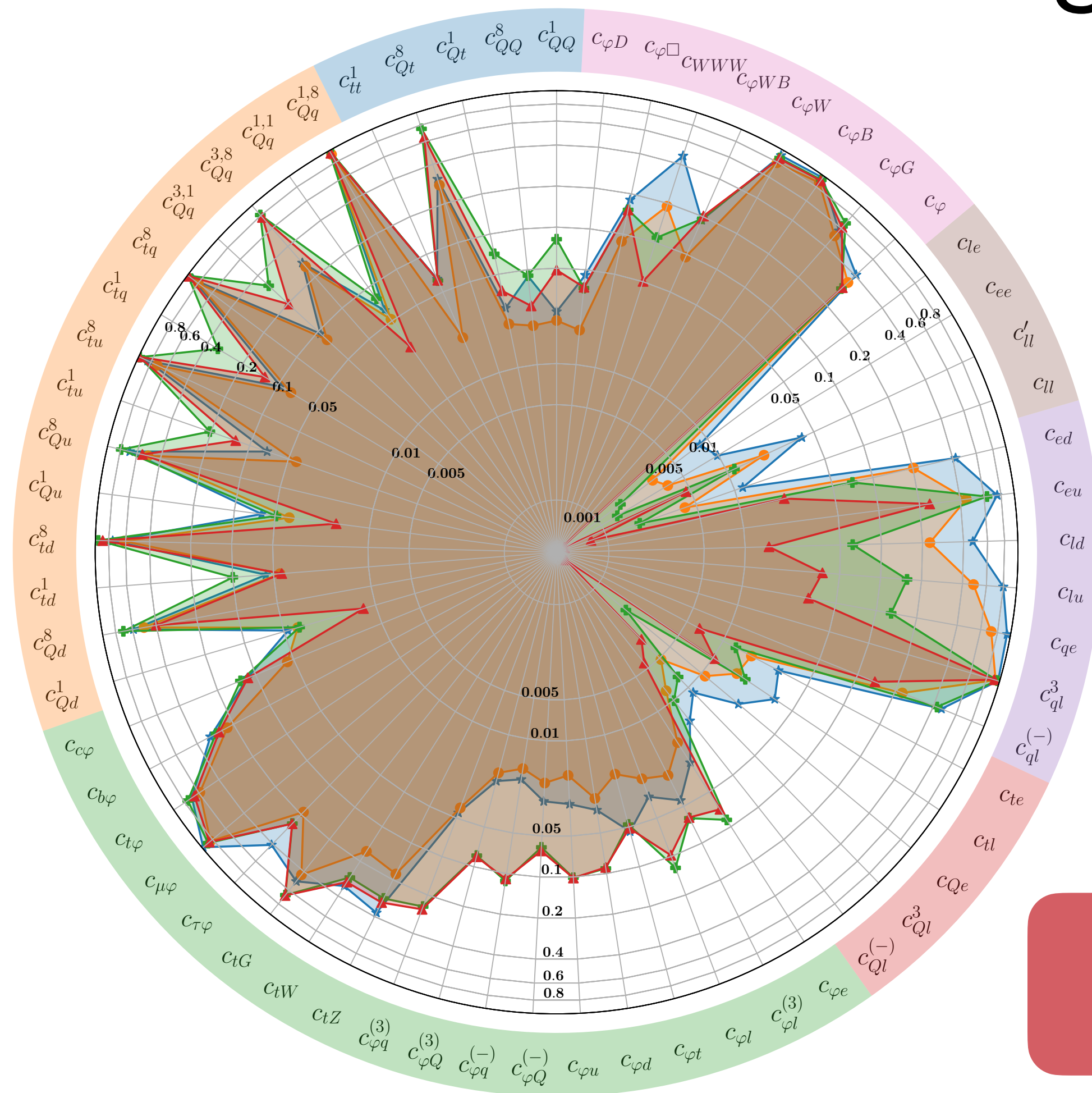


Marginalised

Hierarchy between colliders changes

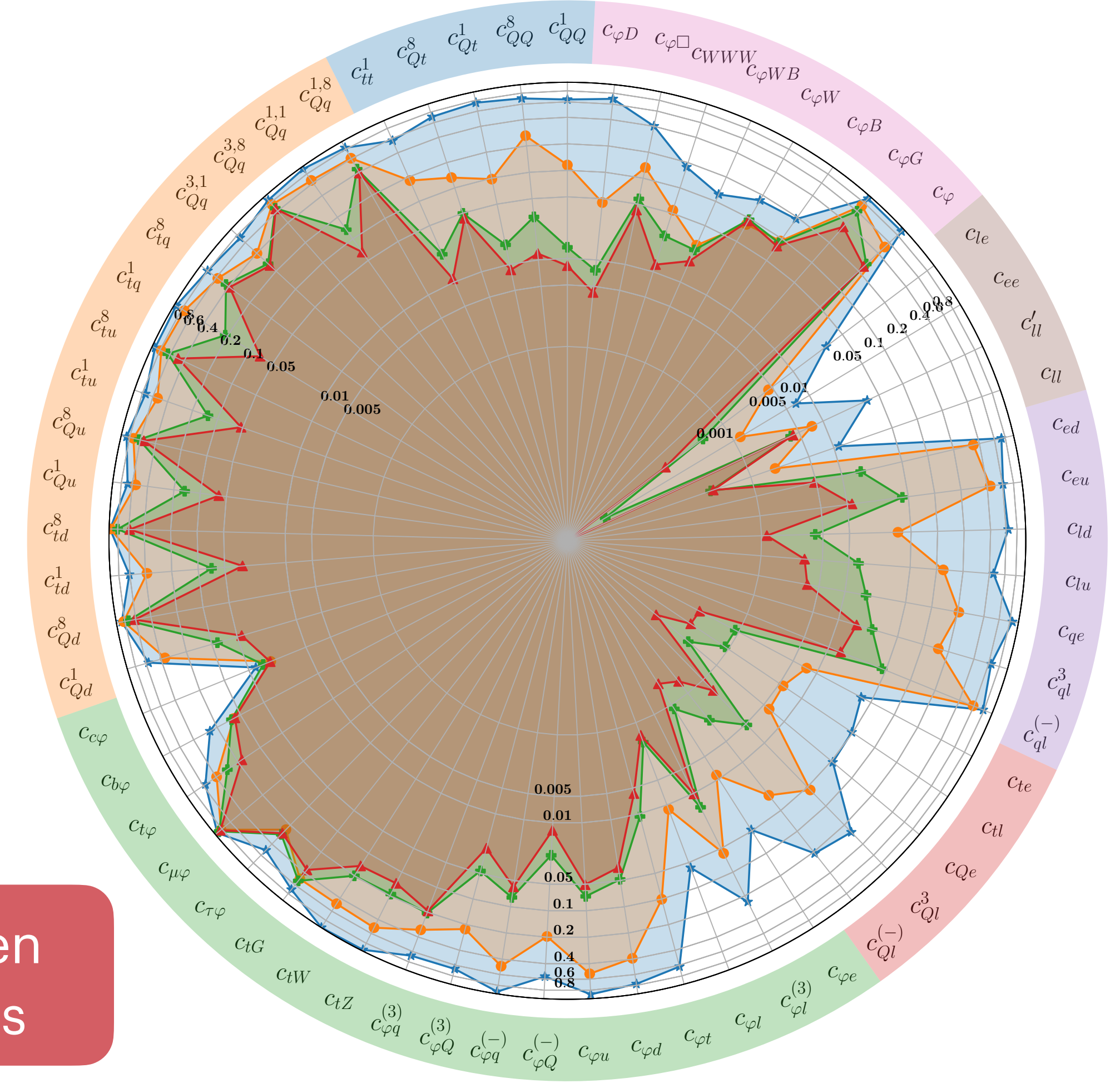
★ LEP3
 ● FCC-ee
 + LCF550
 ▲ LCF1000

Individual versus marginalised fits



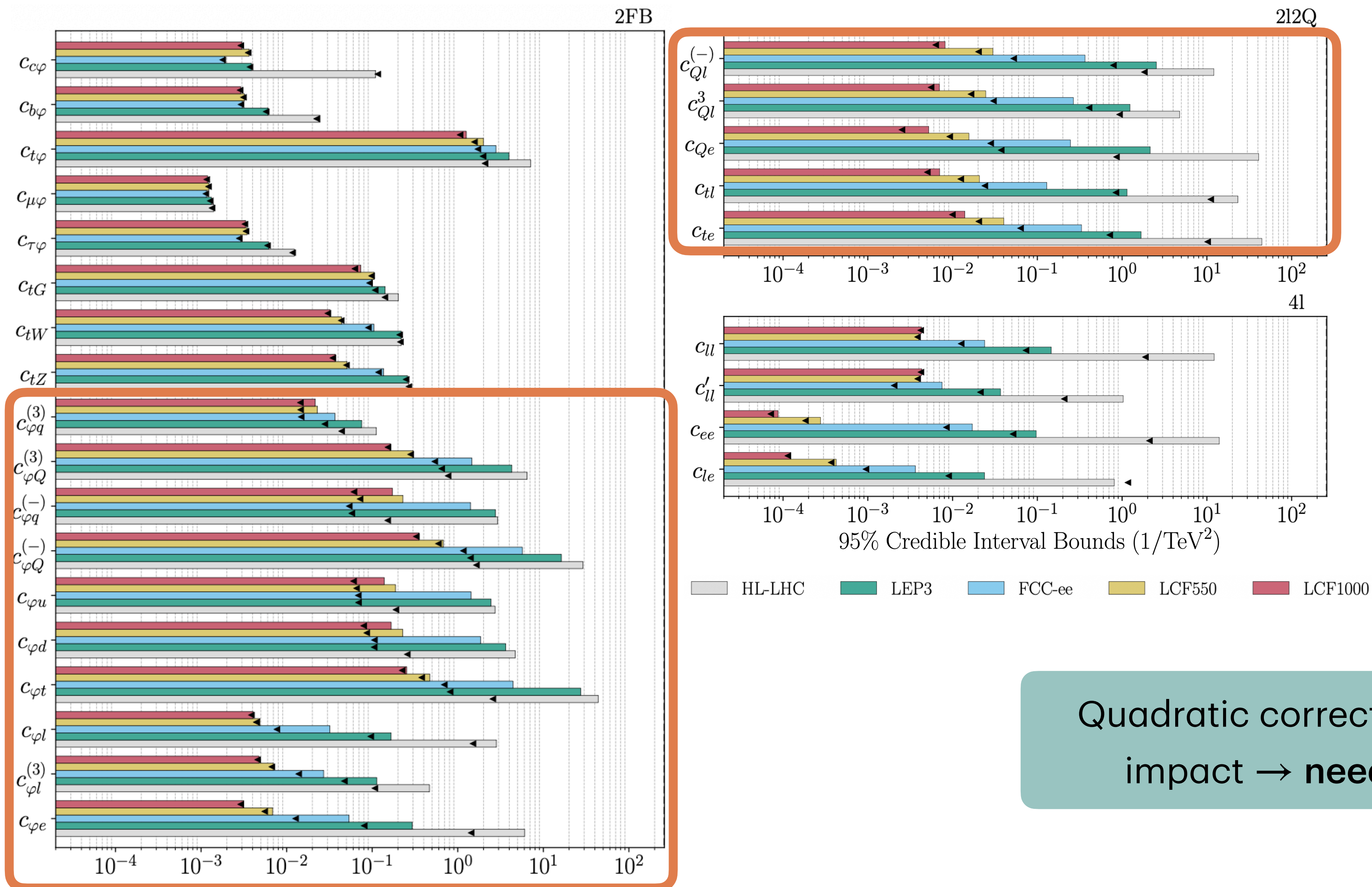
Hierarchy between colliders changes

Realistic **UV scenarios do not activate all 61 WCs** but also activate **more than 1 WC**



These results “bracket” the possible bounds

Do quadratic corrections matter?



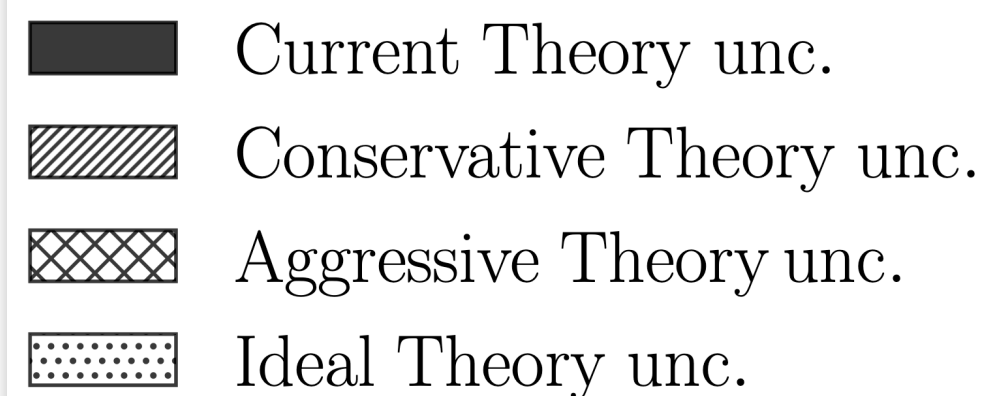
Quadratic corrections can have strong impact → need to be considered

Impact of theory uncertainties

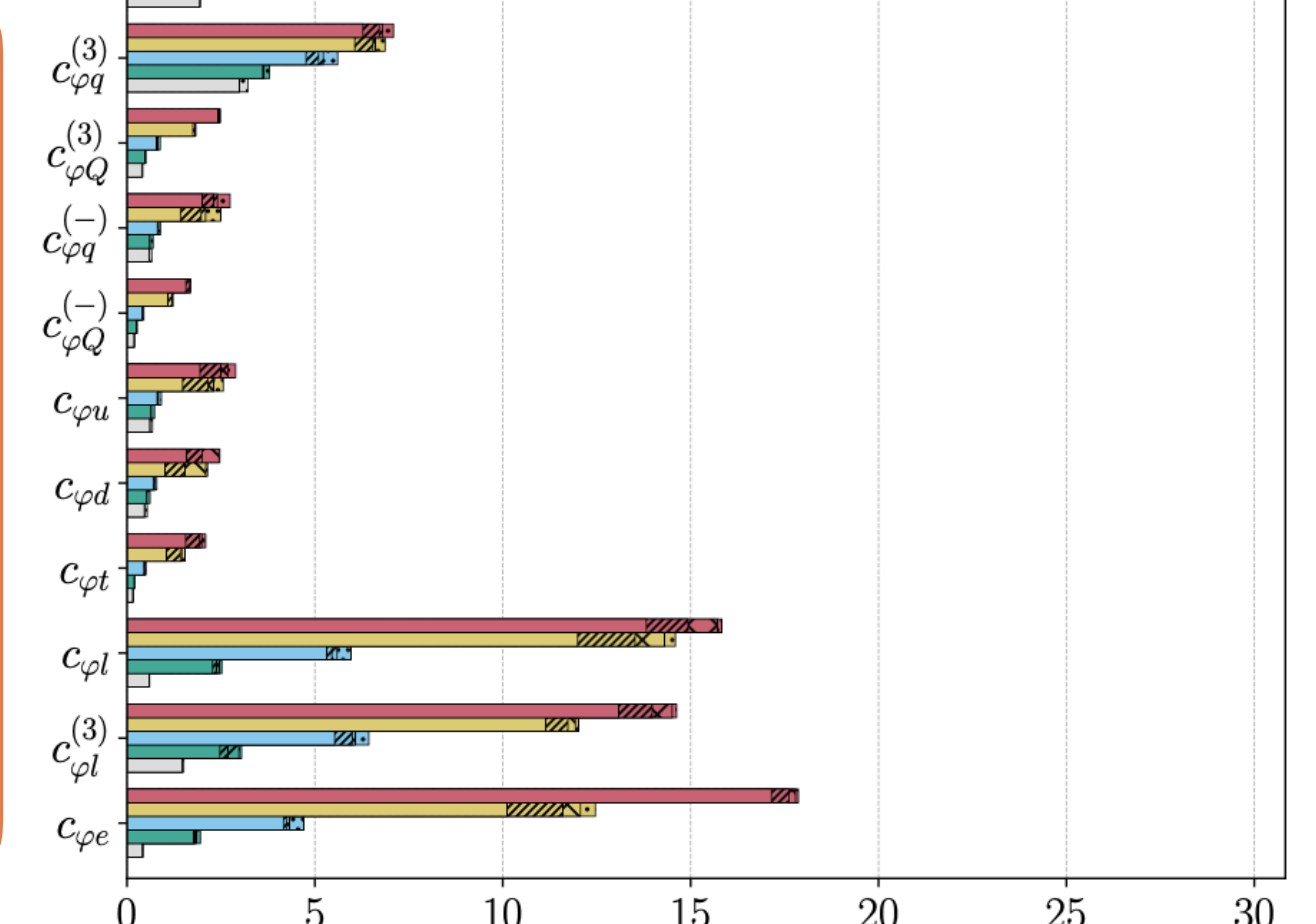
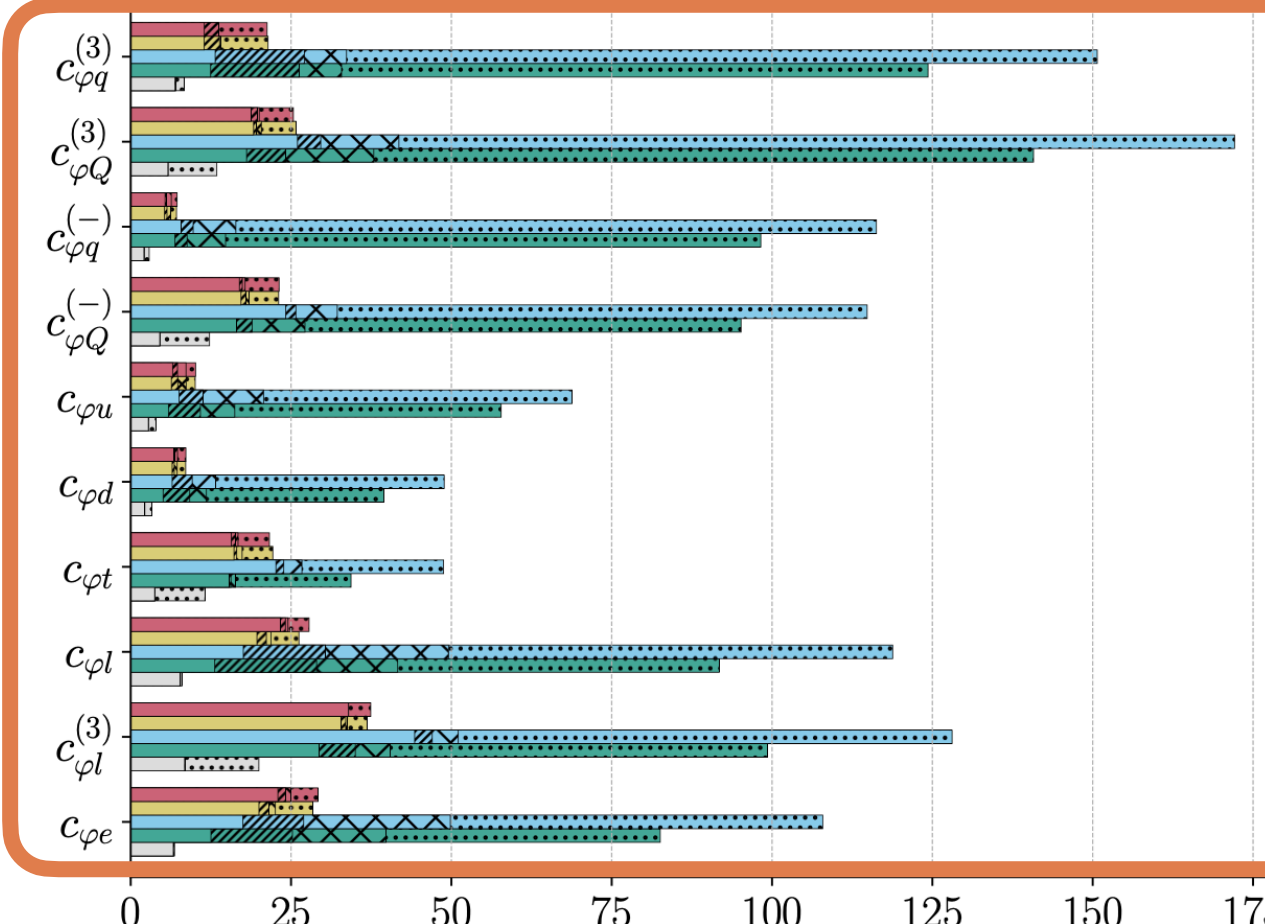
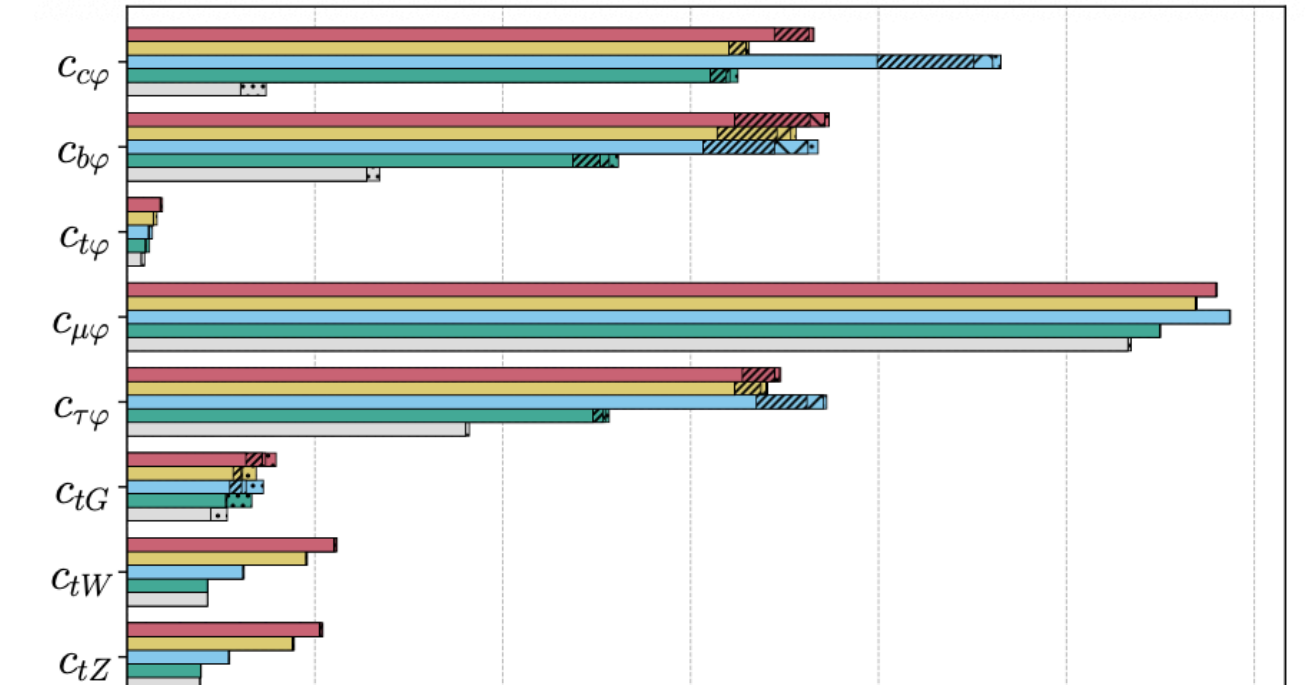
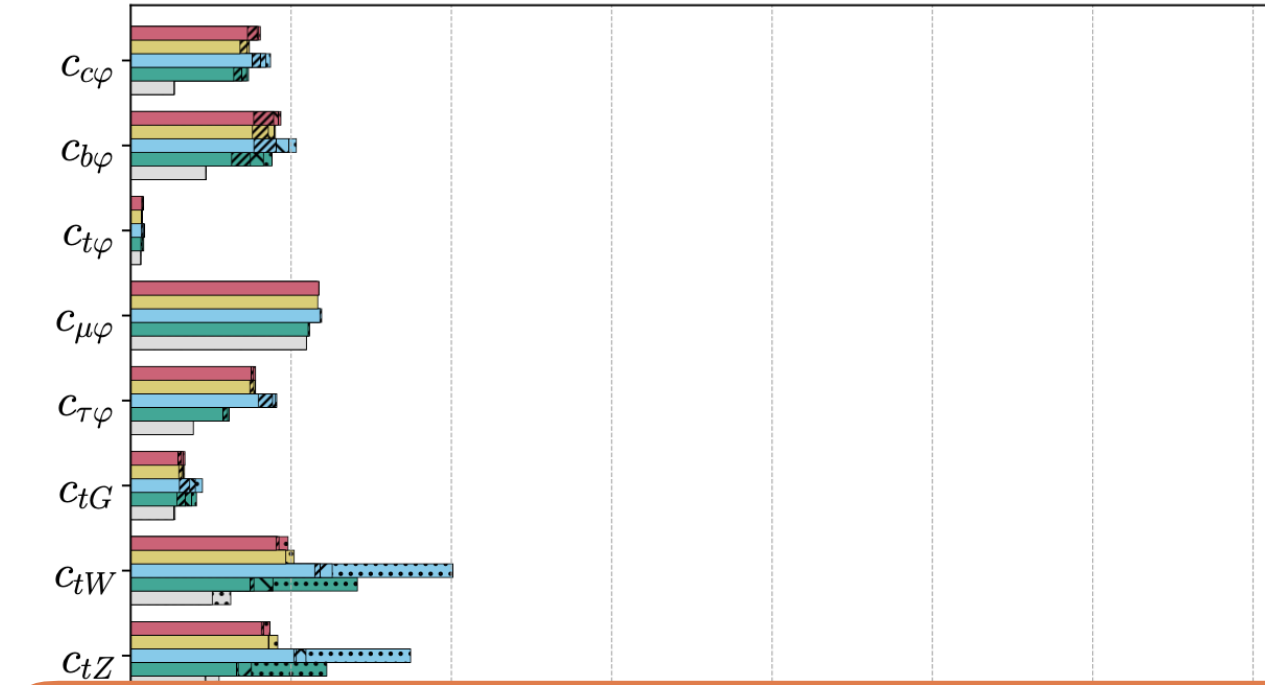
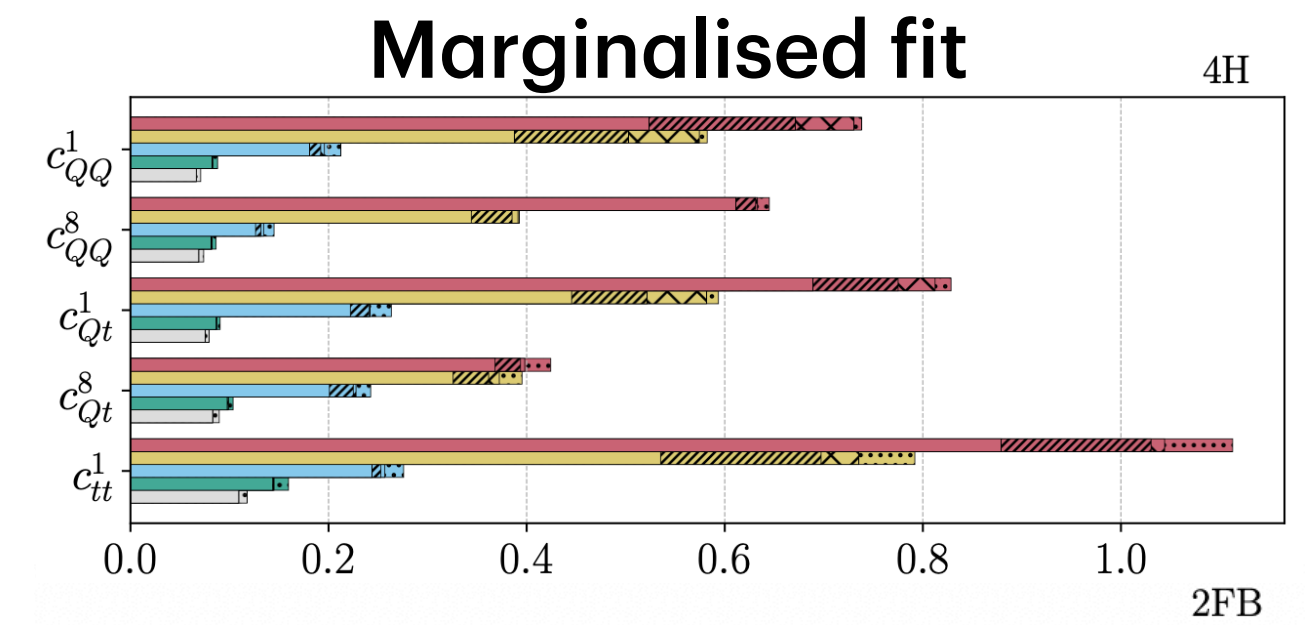
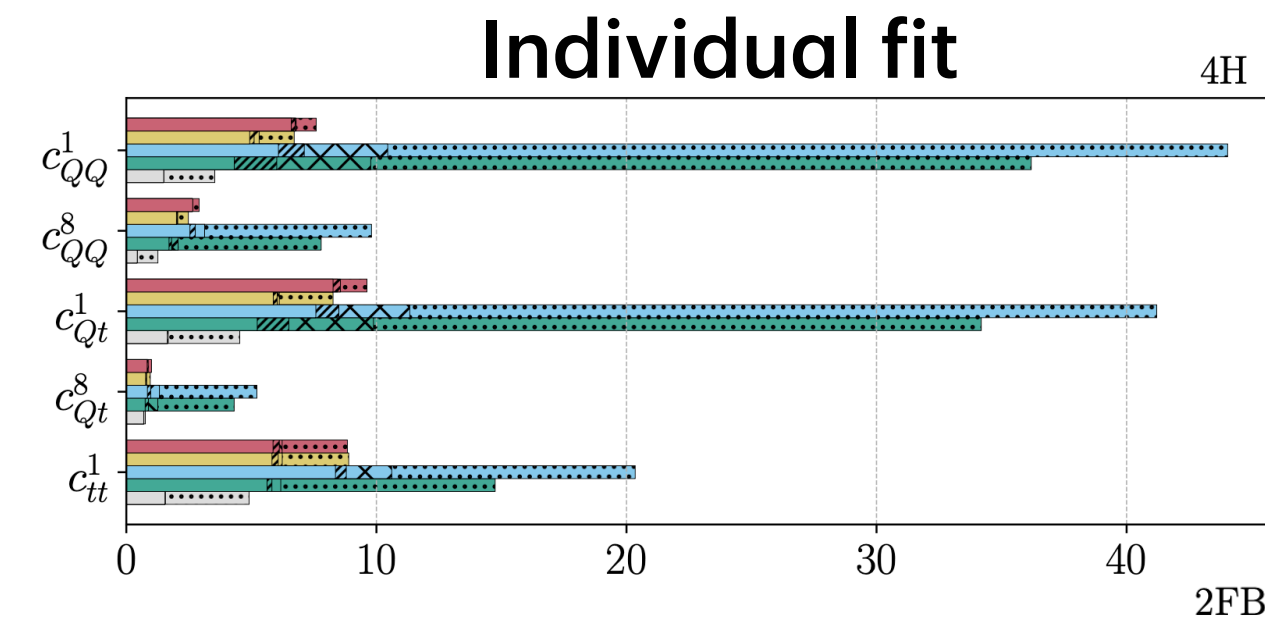
Better theory predictions are essential to make the most of future colliders

Operators sensitive to Z-pole observables are strongly affected by theory uncertainties

Individual bounds, $\mathcal{O}(\Lambda^{-2})$



■ HL-LHC ■ LEP3 ■ FCC-ee ■ LCF550 ■ LCF1000



$\Lambda = c_i^{-1/2}(\mu_0) [\text{TeV}]$

Mass reach

$\Lambda = c_i^{-1/2}(\mu_0) [\text{TeV}]$

The descoped FCC-ee

A. The electron-positron Future Circular Collider (FCC-ee) is recommended as the preferred option for the next flagship collider at CERN.

The FCC-ee would deliver the world's broadest high-precision particle physics programme, with an outstanding discovery potential through the Higgs, electroweak, flavour and top-quark sectors, as well as advances in quantum chromodynamics (QCD). Its technical feasibility is demonstrated by the comprehensive FCC Feasibility Study, its scope and cost are well defined, plausible funding scenarios have been developed and its schedule enables first beams within five to seven years after the end of HL-LHC operations. The FCC-ee would maintain European leadership in high-energy particle physics, as well as advancing technology and providing significant societal benefits.

B. A descoped FCC-ee is the preferred alternative option for the next flagship collider at CERN.

Descoping scenarios include removing the top-quark run, constructing two rather than four interaction regions and experiments and decreasing the radiofrequency (RF) system power.

These measures would reduce the construction cost by approximately 15%. Although this would have a significant impact on the breadth of the physics programme and the precision achieved, the descoped FCC-ee would still provide a very strong physics programme and a viable path towards high energies, compared to the alternative collider options. Should additional resources become available, these descoping scenarios would be reversible.

Recommendations by the European Strategy Group
<https://cds.cern.ch/record/2950671>

Descoped FCC-ee

- No top-quark run
 - 2 IPs instead of 4 IPs -39% lumi
 - 30 MW beam power instead of 50 MW -40% lumi
- 64% lumi

Blondel, Grojean, Janot, Wilkinson
[arXiv:2601.05283]

Impact of the top run

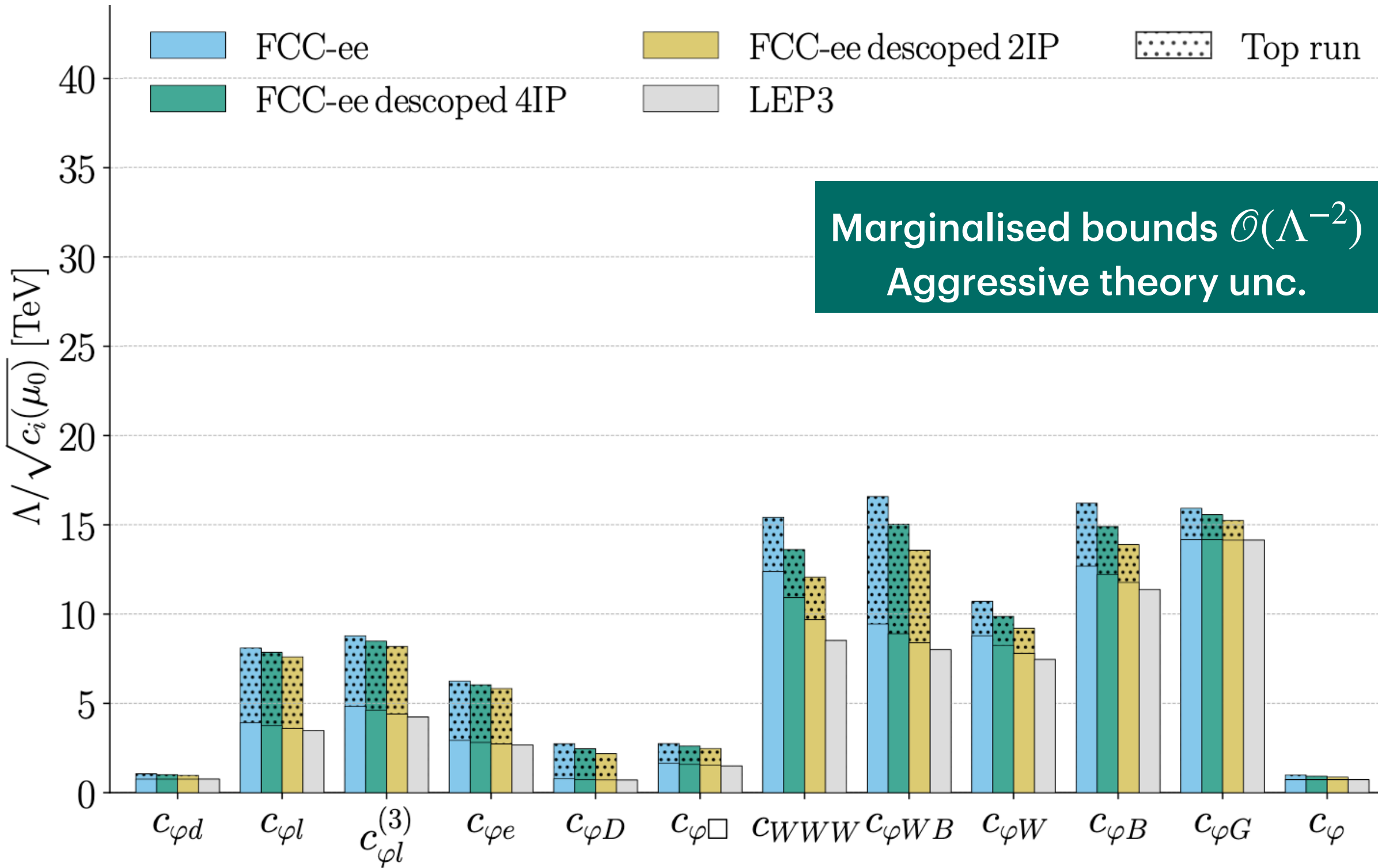
[arXiv:2608.05874] E. Celada, E.Hammou, J. ter Hoeve, M.T.

Collider	# IPs	Energy ($\sqrt{s}$)	Luminosity ($\mathcal{L}_{\text{int}}$)	% of Baseline
Baseline FCC-ee	4 IPs	91.2 GeV 161 GeV 240 GeV 365 GeV (*)	205 ab^{-1} 19.2 ab^{-1} 10.8 ab^{-1} 3.12 ab^{-1}	100%
2 IP descoped FCC-ee	2 IPs	91.2 GeV 161 GeV 240 GeV (365 GeV)	74.8 ab^{-1} 7.0 ab^{-1} 3.9 ab^{-1} (1.14 ab^{-1})	36.5% (36.5%)
4 IP descoped FCC-ee	4 IPs	91.2 GeV 161 GeV 240 GeV (365 GeV)	123 ab^{-1} 11.5 ab^{-1} 6.5 ab^{-1} (1.9 ab^{-1})	60% (60%)

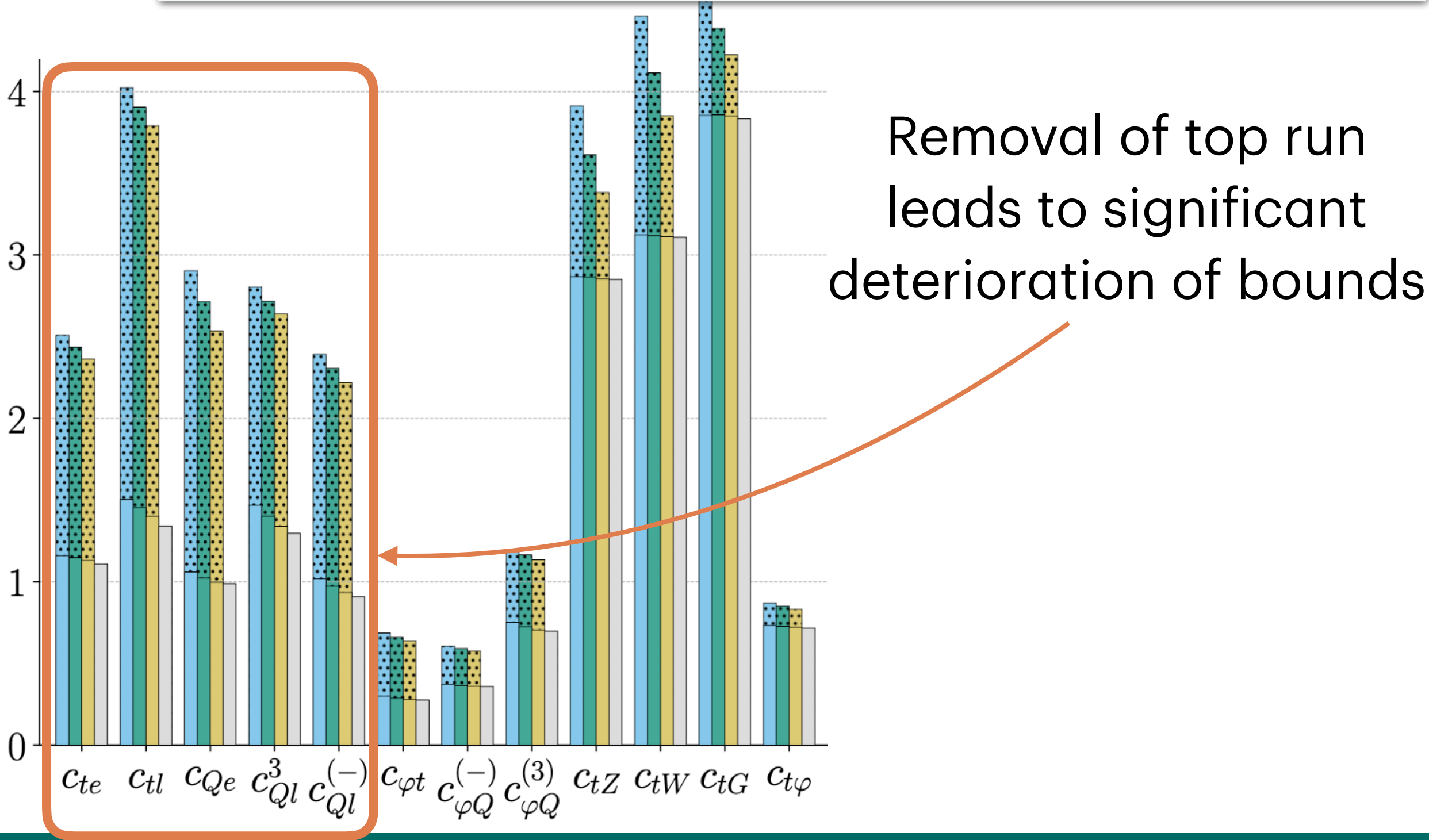
Impact of the top run

[arXiv:2608.05874] E. Celada, E.Hammou, J. ter Hoeve, M.T.

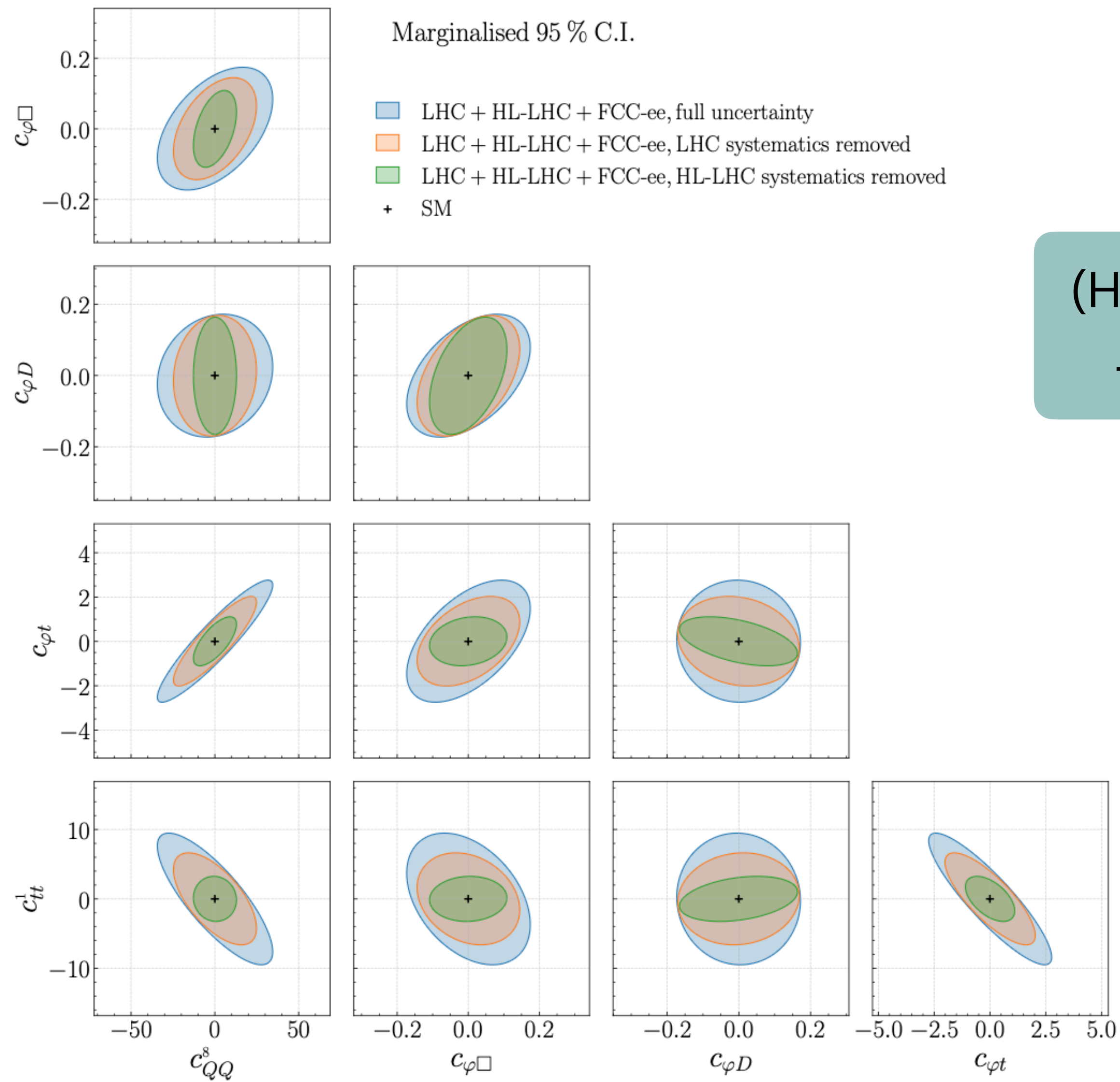
Without top run, FCC-ee scenarios are only slightly better than LEP3



Collider	# IPs	Energy ($\sqrt{s}$)	Luminosity ($\mathcal{L}_{\text{int}}$)	% of Baseline
Baseline FCC-ee	4 IPs	91.2 GeV	205 ab^{-1}	100%
		161 GeV	19.2 ab^{-1}	
		240 GeV	10.8 ab^{-1}	
		365 GeV (*)	3.12 ab^{-1}	
2 IP descoped FCC-ee	2 IPs	91.2 GeV	74.8 ab^{-1}	36.5%
		161 GeV	7.0 ab^{-1}	
		240 GeV	3.9 ab^{-1}	(36.5%)
		(365 GeV)	(1.14 ab^{-1})	
4 IP descoped FCC-ee	4 IPs	91.2 GeV	123 ab^{-1}	60%
		161 GeV	11.5 ab^{-1}	
		240 GeV	6.5 ab^{-1}	(60%)
		(365 GeV)	(1.9 ab^{-1})	



Lifting flat directions with HL-LHC



(HL)-LHC measurements needed to lift flat directions
→ LHC programme is **complementary** to FCC-ee

Input dataset	Constrained directions
FCC-ee + LHC + HL-LHC	61/61
FCC-ee w/o top + LHC + HL-LHC	61/61
FCC-ee only	52/61
FCC-ee w/o top only	38/61

Conclusions

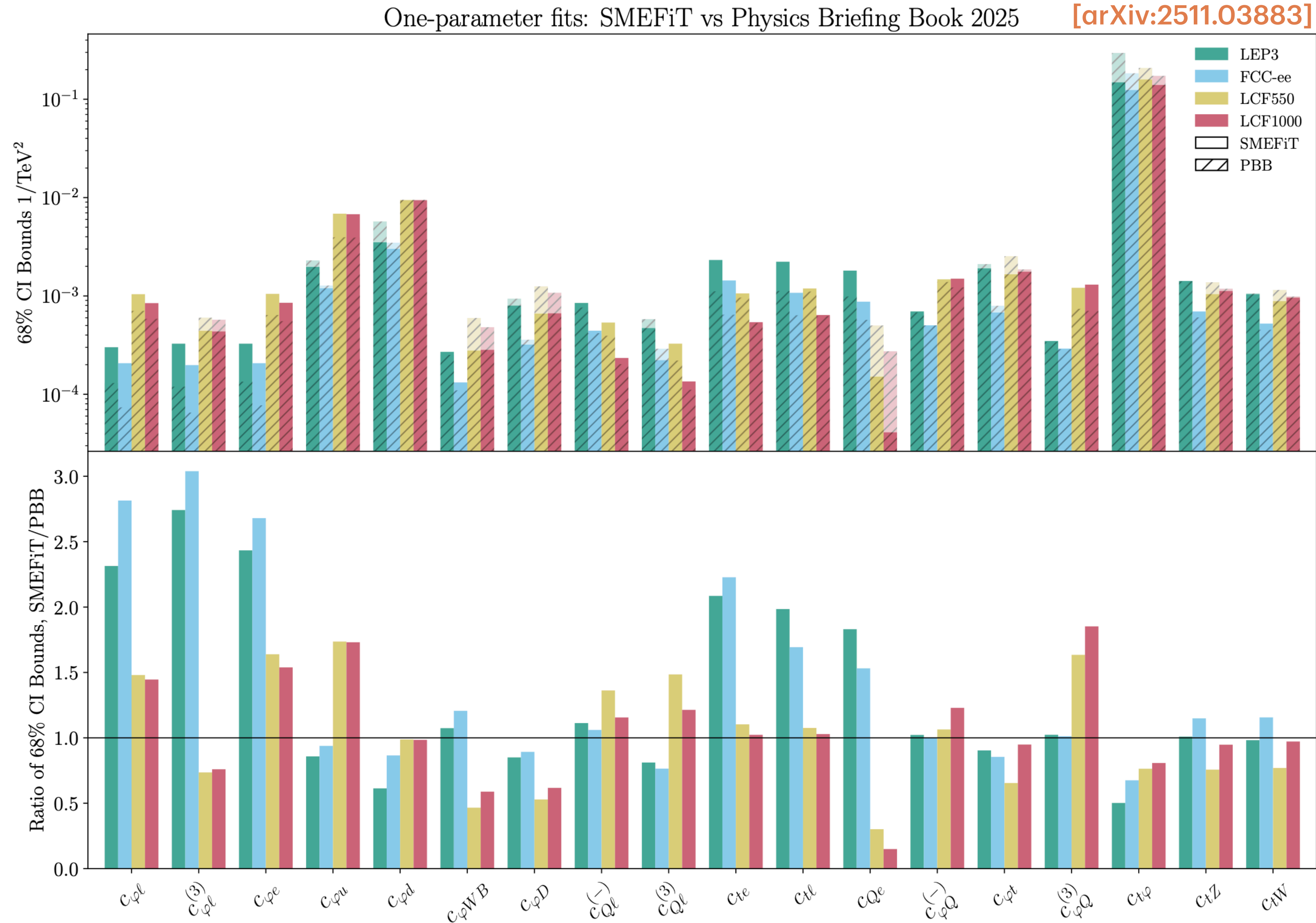
- **Comparison** of New Physics reach of **future e^+e^- colliders** using the **SMEFT framework**.
- Non negligible **impact of quadratic EFT corrections** and **theory uncertainties**.
- A **top-quark run**, even with reduced luminosity, is **essential to fully exploit the potential of the (descope) FCC-ee**.
- **(HL)-LHC programme is complementary to FCC-ee** and needed to lift flat directions.

Thank you !

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Comparison with the Physics Briefing Book



Fisher information matrix

	LEP	HL-LHC	LEP3 91 GeV	LEP3 161 GeV	LEP3 240 GeV
$c_{\tilde{Q}\tilde{Q}}^1$	0.1	0.0	96.9	0.0	3.1
$c_{\tilde{Q}\tilde{Q}}^8$	0.1	0.0	52.0	0.0	47.8
$c_{\tilde{Q}t}^1$	0.1	0.0	92.5	0.0	7.4
$c_{\tilde{Q}t}^8$	0.1	8.8	81.9	0.0	9.3
c_{tt}^1	0.4	0.0	37.4	0.0	62.2
$c_{\varphi\varphi}$		2.0			98.0
$c_{\tilde{W}}$		9.8			90.2
$c_{\tilde{W}}$		42.6			57.4
$c_{\mu\mu}$		93.9			6.1
$c_{\tau\tau}$		16.2			83.8
c_{tG}	0.0	24.5	0.5	0.0	75.0
c_{tW}	0.2	10.0	48.8	0.0	41.0
c_{tZ}	0.2	12.9	47.1	0.0	39.7
$c_{\varphi q}^{(3)}$	0.1	0.1	98.1	0.0	1.7
$c_{\varphi q}^{(3)}$	0.1	0.0	95.4	0.0	4.5
$c_{\varphi Q}^{(-)}$	0.0	0.0	97.3	0.0	2.7
$c_{\varphi q}^{(-)}$	0.1	0.0	88.3	0.0	11.6
$c_{\varphi u}$	0.1	0.0	99.1	0.0	0.9
$c_{\varphi d}$	0.1	0.0	98.3	0.0	1.6
$c_{\varphi t}$	0.3	0.0	27.1	0.0	72.6
$c_{\varphi t}$	0.1	0.0	99.4	0.0	0.5
$c_{\varphi l}^{(3)}$	0.2	0.0	71.9	0.0	27.9
$c_{\varphi e}$	0.1	0.0	99.0	0.4	0.6
$c_{\tilde{Q}q}^{1,8}$	0.0	84.6	15.3	0.0	0.2
$c_{\tilde{Q}q}^{1,1}$	0.0	0.3	98.4	0.0	1.3
$c_{\tilde{Q}q}^{3,8}$	0.1	6.4	89.6	0.0	3.8
$c_{\tilde{Q}q}^{3,1}$	0.1	0.7	93.2	0.0	6.0
$c_{\tilde{Q}q}^8$	0.0	74.5	24.6	0.0	0.9
c_{tq}^1	0.0	0.8	95.6	0.0	3.6
c_{tu}^8	0.0	71.0	28.8	0.0	0.1
c_{tu}^1	0.1	0.4	98.8	0.0	0.7
c_{tu}^8	0.0	41.7	58.0	0.0	0.2
c_{tu}^1	0.1	0.3	98.9	0.0	0.7
c_{td}^8	0.1	52.6	45.2	0.0	2.1
c_{td}^1	0.1	0.2	98.4	0.0	1.3
c_{td}^8	0.1	30.1	67.8	0.0	2.0
c_{td}^1	0.1	0.1	99.1	0.0	0.7
$c_{Qd}^{(-)}$	0.0	0.0	17.1	0.0	82.9
c_{Ql}^3	0.0	0.0	5.1	0.0	94.9
c_{Qe}	0.1	0.0	66.8	0.2	33.0
c_{tl}	0.1	0.0	99.0	0.0	0.9
c_{te}	0.1	0.0	99.2	0.3	0.4
c_{φ}		15.3			84.7
$c_{\varphi G}$	0.0	34.0	0.0	0.0	66.0
$c_{\varphi B}$	0.0	95.1	0.1	0.0	4.8
$c_{\varphi W}$	0.0	86.0	0.7	0.0	13.3
$c_{\varphi WB}$	0.2	3.3	40.6	0.0	56.0
$c_{\varphi WW}$	0.1	34.0	15.6	2.2	48.1
$c_{\varphi\Box}$	0.1	2.9	13.6	0.0	83.5
$c_{\varphi D}$	0.2	0.0	19.0	0.0	80.8
c_{tl}	0.0	0.0	1.1	0.0	98.8
c_{tl}^1	0.2	0.0	76.7	1.4	21.8
c_{te}	0.0	0.0	0.3	0.0	99.6
c_{te}	0.0	0.0	0.0	0.0	100.0
$c_{ql}^{(-)}$	0.0	19.6	0.0	0.0	80.3
c_{ql}^3	0.0	96.6	3.0	0.0	0.4
c_{qe}	0.0	87.3	0.4	0.0	12.3
c_{tu}	0.0	59.2	1.0	0.0	39.9
c_{td}	0.0	21.1	1.8	0.0	77.2
c_{eu}	0.0	53.6	0.2	0.0	46.2
c_{ed}	0.0	17.1	0.3	0.0	82.7

	LEP	HL-LHC	FCC-ee 91 GeV	FCC-ee 161 GeV	FCC-ee 240 GeV	FCC-ee 365 GeV
$c_{\tilde{Q}\tilde{Q}}^1$	0.0	0.0	88.8	0.0	10.2	0.9
$c_{\tilde{Q}\tilde{Q}}^8$	0.0	0.0	50.8	0.0	35.0	14.2
$c_{\tilde{Q}t}^1$	0.0	0.0	79.8	0.0	18.8	1.4
$c_{\tilde{Q}t}^8$	0.0	6.8	78.6	0.0	12.7	1.9
c_{tt}^1	0.0	0.0	64.1	0.0	32.8	3.1
$c_{\varphi\varphi}$		1.0			64.2	34.8
$c_{\tilde{W}}$		4.9			66.6	28.4
$c_{\tilde{W}}$		32.5			50.7	16.8
$c_{\mu\mu}$		73.1			22.4	4.5
$c_{\tau\tau}$		3.4			76.5	20.1
c_{tG}	0.0	18.4	0.9	0.0	66.0	14.8
c_{tW}	0.1	2.3	27.2	0.0	44.9	25.5
c_{tZ}	0.1	3.1	26.6	0.0	44.2	26.1
$c_{\varphi q}^{(3)}$	0.1	0.1	95.6	0.0	4.1	0.1
$c_{\varphi q}^{(3)}$	0.0	0.0	83.8	0.0	14.7	1.4
$c_{\varphi Q}^{(-)}$	0.0	0.0	93.6	0.0	5.9	0.5
$c_{\varphi q}^{(-)}$	0.0	0.0	69.3	0.0	27.9	2.8
$c_{\varphi u}$	0.0	0.0	98.4	0.0	1.4	0.1
$c_{\varphi d}$	0.1	0.0	94.9	0.0	4.5	0.5
$c_{\varphi t}$	0.0	0.0	49.5	0.0	45.9	4.5
$c_{\varphi t}$	0.1	0.0	99.4	0.0		0.6
$c_{\varphi l}^{(3)}$	0.1	0.0	43.7	0.0	49.5	6.7
$c_{\varphi e}$	0.0	0.0	98.2	0.6	0.7	0.5
$c_{\tilde{Q}q}^{1,8}$	0.0	78.3	20.8	0.0	0.6	0.4
$c_{\tilde{Q}q}^{1,1}$	0.0	0.2	96.5	0.0	3.0	0.2
$c_{\tilde{Q}q}^{3,8}$	0.1	5.3	82.9	0.0	9.1	2.6
$c_{\tilde{Q}q}^{3,1}$	0.1	0.5	79.3	0.0	13.5	6.6
$c_{\tilde{Q}q}^8$	0.0	59.2	37.4	0.0	3.1	0.2
c_{tq}^1	0.0	0.5	89.2	0.0	7.4	2.9
c_{tu}^8	0.0	48.3	50.8	0.0	0.3	0.6
c_{tu}^1	0.0	0.2	97.1	0.0	1.0	1.7
c_{tu}^8	0.0	21.7	77.9	0.0	0.3	0.1
c_{tu}^1	0.0	0.1	97.9	0.0	1.1	0.8
c_{td}^8	0.0	33.6	59.3	0.0	6.4	0.6
c_{td}^1	0.1	0.1	91.2	0.0	3.3	5.4
c_{td}^8	0.1	20.8	71.4	0.0	5.1	2.8
c_{td}^1	0.1	0.1	95.7	0.0	2.2	1.9
$c_{Qd}^{(-)}$	0.0	0.0	9.2	0.0	66.4	24.3
c_{Ql}^3	0.0	0.0	2.8	0.0	61.4	35.8
c_{Qe}	0.0	0.0	32.5	0.1	23.3	44.1
c_{tl}	0.0	0.0	43.5	0.0	0.4	56.1
c_{te}	0.0	0.0	81.0	0.3	0.5	18.1
c_{φ}		10.4			89.3	0.4
$c_{\varphi G}$	0.0	25.5	0.0	0.0	57.5	17.0
$c_{\varphi B}$	0.0	79.0	0.2	0.0	18.2	2.7
$c_{\varphi W}$	0.0	64.2	1.2	0.0	25.7	8.9
$c_{\varphi WB}$	0.1	0.8	24.4	0.0	66.3	8.4
$c_{\varphi WW}$	0.0	6.2	6.8	1.6	6.9	78.5
$c_{\varphi\Box}$	0.0	0.7	25.6	0.0	61.6	12.0
$c_{\varphi D}$	0.0	0.0	34.4	0.0	58.1	7.5
c_{tl}	0.0	0.0	0.4	0.0	60.0	39.5
c_{tl}^1	0.0	0.0	60.0	1.0	22.3	16.6
c_{te}	0.0	0.0	0.1	0.0	62.2	37.7
c_{te}	0.0	0.0	0.0	0.0	63.9	36.1
$c_{ql}^{(-)}$	0.0	4.9	0.0	0.0	60.7	34.4
c_{ql}^3	0.0	88.4	9.7	0.1	1.3	0.5
c_{qe}	0.0	50.0	0.6	0.0	24.1	25.3
c_{tu}	0.0	21.3	0.7	0.0	46.7	31.4
c_{td}	0.0	4.8	0.8	0.0	56.0	38.4
c_{eu}	0.0	19.0	0.1	0.0	50.9	30.0
c_{ed}	0.0	4.0	0.1	0.0	59.9	36.0

	LEP	HL-LHC	LCF 91 GeV	LCF 250 GeV	LCF 350 GeV	LCF 550 GeV 8ab ⁻¹
$c_{\tilde{Q}\tilde{Q}}^1$	0.7	0.0	14.3	42.4	0.0	42.6
$c_{\tilde{Q}\tilde{Q}}^8$	0.2	0.0	4.9	40.2	0.0	54.6
$c_{\tilde{Q}t}^1$	0.5	0.0	12.9	50.6	0.0	36.0
$c_{\tilde{Q}t}^8$	0.3	53.1	7.0	19.1	0.6	19.9
c_{tt}^1	0.4	0.0	12.0	71.4	0.0	16.2
$c_{\varphi\varphi}$		1.8		34.5	2.0	61.8
$c_{\tilde{W}}$		7.4		29.3	2.1	61.1
$c_{\tilde{W}}$		51.5		13.3	1.2	34.0
$c_{\mu\mu}$		83.0		6.4	0.4	10.2
$c_{\tau\tau}$		6.2		48.6	2.3	42.9
c_{tG}	0.0	45.3	0.0	26.2	1.6	26.9
c_{tW}	0.3	14.6	1.2	58.9	0.0	24.9
c_{tZ}	0.3	18.7	1.2	56.0	0.0	23.8
$c_{\varphi q}^{(3)}$	3.3	2.7	40.8	33.1	1.1	19.0
$c_{\varphi q}^{(3)}$	0.7	0.0	13.7	61.1	0.0	24.6
$c_{\varphi Q}^{(-)}$	1.0	0.3	53.4	25.2	0.0	20.2
$c_{\varphi q}^{(-)}$	0.4	0.0	9.0	65.8	0.0	24.7
$c_{\varphi u}$	0.7	0.3	66.0	21.1	0.0	11.9
$c_{\varphi d}$	0.8	0.1	24.1	44.3	0.0	30.8
$c_{\varphi t}$	0.2	0.0	6.2	68.7	0.0	24.9
$c_{\varphi t}$	2.1	0.0	12.8	31.4	1.6	52.1
$c_{\varphi l}^{(3)}$	0.4	0.0	2.7	55.8	0.3	40.7
$c_{\varphi e}$	1.0	0.0	16.4	39.6	0.6	42.5
$c_{\tilde{Q}q}^{1,8}$	0.0	96.3	0.3	0.4	0.0	3.0
$c_{\tilde{Q}q}^{1,1}$	0.1	0.6	3.0	5.3	0.0	91.0
$c_{\tilde{Q}q}^{3,8}$	0.8	62.5	10.3	9.7	0.4	16.3
$c_{\tilde{Q}q}^{3,1}$	1.1	9.5	14.7	18.1	0.5	56.1
$c_{\tilde{Q}q}^8$	0.0	97.6	1.0	1.0	0.0	0.4
c_{tq}^1	0.5	12.2	25.5	7.3	0.1	54.4
c_{tu}^8	0.0	97.3	2.1	0.2	0.0	0.4
c_{tu}^1	0.6	4.7	58.3	11.1	0.1	25.2
c_{tu}^8	0.1	60.1	4.5	3.0	0.0	32.3
c_{td}^8	0.0	0.2	3.4	5.2	0.0	91.2
c_{td}^1	0.1	88.5	3.8	4.4	0.0	3.2
c_{td}^8	0.5	0.8	14.6	10.0	0.1	74.1
c_{td}^1	0.1	44.9	3.5	4.6	0.0	46.9
$c_{Qd}^{(-)}$	0.1	0.1	1.8	4.3	0.0	93.8
c_{Ql}^3	0.0	0.0	0.1	8.1	0.0	91.9
c_{Qe}	0.0	0.0	0.0	3.0	0.0	96.9
c_{tl}	2.3	0.0	14.4	23.6	1.2	58.4
c_{te}	0.5	0.0	8.0	15.4	7.6	68.5
c_{φ}		7.7		20.1	0.0	72.3
$c_{\varphi G}$	0.0	46.6	0.0	17.4	1.5	34.6
$c_{\varphi B}$	0.0	88.3	0.0	2.7	0.2	8.7
$c_{\varphi W}$	0.0	76.8	0.0	7.2	1.0	15.0
$c_{\varphi WB}$	0.2	3.4	0.7	58.0	0.0	37.7
$c_{\varphi WW}$	0.0	1.1	0.0	5.3	0.0	93.5
$c_{\varphi\Box}$	0.1	2.1	1.5	47.9	1.2	47.2
$c_{\varphi D}$	0.1	0.0	3.0	60.9	0.0	36.0
c_{tl}	0.0	0.0	0.0	7.7	0.0	92.3
c_{tl}^1	0.0	0.0	0.1	7.3	0.0	92.6
c_{te}	0.0	0.0	0.0	7.0	0.0	93.0
c_{te}	0.0	0.0	0.0	3.1	0.0	96.9
$c_{ql}^{(-)}$	0.0	16.8	0.0	4.1	0.0	79.1
c_{ql}^3	0.0	95.1	0.0	0.6	0.0	4.3
c_{qe}	0.0	1.6	0.0	1.2	0.0	97.2
c_{tu}	0.0	2.2	0.0	1.7	0.0	96.1
c_{td}	0.0	0.4	0.0	1.7	0.0	98.0
c_{eu}	0.0	37.1	0.0	3.8	0.0	59.1
c_{ed}	0.0	0.5	0.0	4.9	0.0	94.6

	LEP	HL-LHC	LCF 91 GeV	LCF 250 GeV	LCF 350 GeV	LCF 550 GeV 4ab ⁻¹	LCF 1000 GeV
$c_{\tilde{Q}\tilde{Q}}^1$	0.2	0.0	5.2	15.4	0.0	7.8	71.4
$c_{\tilde{Q}\tilde{Q}}^8$	0.1	0.0	1.8	14.6	0.0	9	

Marginalised bounds, $\mathcal{O}(\Lambda^{-2})$, ideal theory errors



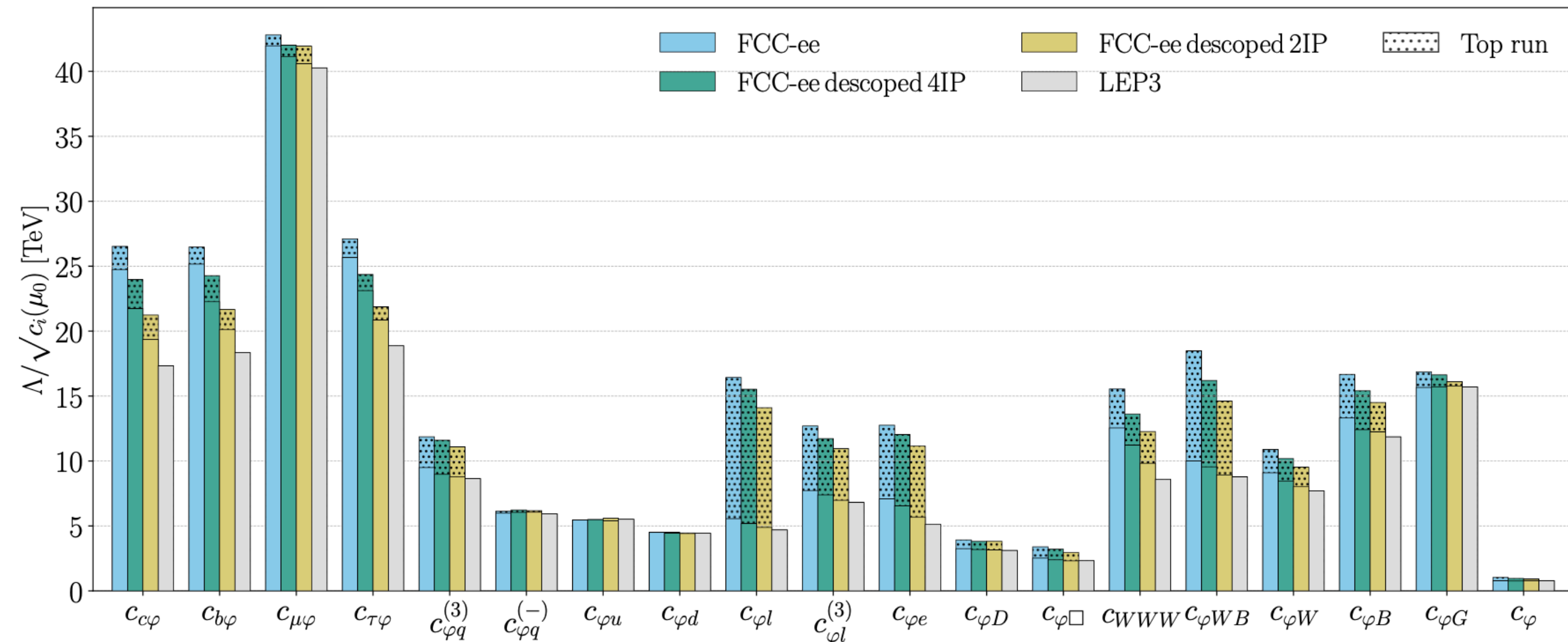
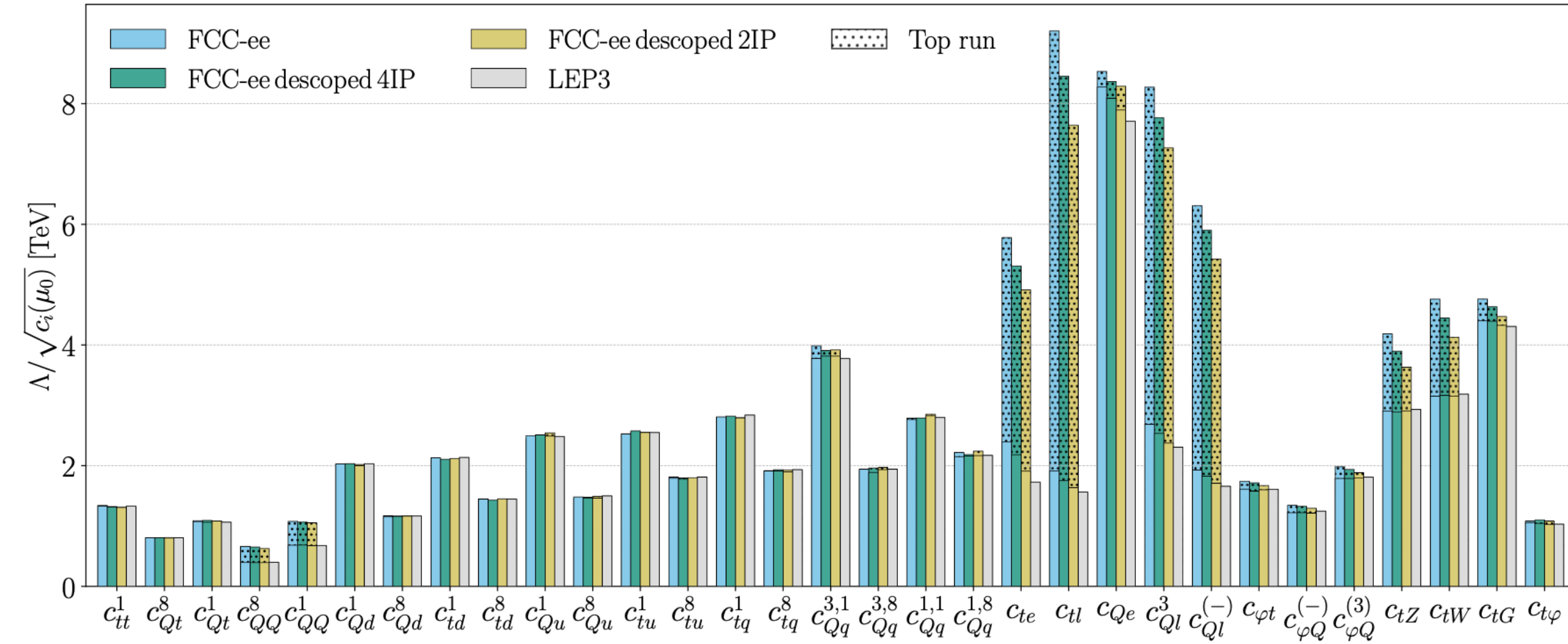
[arXiv:2608.05874]

Individual bounds, $\mathcal{O}(\Lambda^{-2})$, aggressive theory errors



[arXiv:2608.05874]

Marginalised bounds, $\mathcal{O}(\Lambda^{-4})$, aggressive theory errors



[arXiv:2608.05874]