CEPC

Jets, samples and Wednesday working meeting

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Cefs hardware issue

- Last 2 weeks cefs stuck;
  - High IO challenge. HBA card issue
  - Expect to solve this week.

Sample List

- Generally most samples are ready now.

ECM		Z process	H process	Path	CEPCSW Release	EvtNumber	Sim+Digi+Trk	Rec	Status
240		mm	bb	/cefs/higgs/zhangkl/Production/25035/E240_mmHbb	25.3.5	500k	D	D	D
240		mm	cc	/cefs/higgs/zhangkl/Production/25035/E240_mmHcc	25.3.5	500k	D	D	D
240		mm	tautau	/cefs/higgs/zhangkl/Production/25035/E240_mmHe3e3	25.3.5	500k	D	D	D
240		mm	ww(fullhad)	/cefs/higgs/zhangkl/Production/25035/E240_mmHww	25.3.5	500k	D	D	D
240		mm	zz(fullhad)	/cefs/higgs/zhangkl/Production/25035/E240_mmHzz	25.3.5	500k	D	D	D
240		mm	gg	/cefs/higgs/zhangkl/Production/25035/E240_mmHgg	25.3.5	500k	D	D	D
240		mm	ss	/cefs/higgs/zhangkl/Production/25035/E240_mmHss	25.3.6	500k	D	D	D
91.2		bb		/cefs/higgs/zhangkl/Production/25035/E91.2_eebb	25.3.6	100k	D		
91.2		cc		/cefs/higgs/zhangkl/Production/25035/E91.2_eecc	25.3.6	100k	D		
91.2		dd		/cefs/higgs/zhangkl/Production/25035/E91.2_eedd	25.3.6	100k	D		
91.2		uu		/cefs/higgs/zhangkl/Production/25035/E91.2_eeuu	25.3.6	100k	D		
91.2		ss		/cefs/higgs/zhangkl/Production/25036/E91.2_eess	25.3.6	100k	D		
240		ee	inclusive	/cefs/higgs/zhangkl/Production/25036/E240_eeHX	25.3.6	1M	D	D	
240		mm	inclusive	/cefs/higgs/zhangkl/Production/25036/E240_mmHX	25.3.6	1M	D	D	
240		qq	inclusive	/cefs/higgs/zhangkl/Production/25036/E240_qqHX	25.3.6	3M	D	D	
240		vv	inclusive	/cefs/higgs/zhangkl/Production/25036/E240_vvHX	25.3.6	1M	D	D	
240		tautau	inclusive	/cefs/higgs/zhangkl/Production/25036/E240_tautauHX	25.3.6	1M	D	D	
240	2f	ee		/cefs/higgs/zhangkl/Production/25036/E240_e1e1	25.3.6	100k	D	D	
		mm		/cefs/higgs/zhangkl/Production/25036/E240_e2e2	25.3.6	100k	D	D	
		tautau		/cefs/higgs/zhangkl/Production/25036/E240_e3e3	25.3.6	100k	D	D	
		qq		/cefs/higgs/zhangkl/Production/25036/E240_qq	25.3.6	500k	D	D	
341	ttbar	semi-lep			25.3.6	100k			
342.75	ttbar	semi-lep			25.3.6	600k			
344	ttbar	semi-lep			25.3.6	200k			
346	ttbar	semi-lep			25.3.6	100k			
91.2		bb		/cefs/higgs/zhangkl/Production/25036/E91.2_eebb	25.3.6	2M	D	D	
91.2		dd		/cefs/higgs/zhangkl/Production/25036/E91.2_eedd	25.3.6	2M	D	D	
91.2		uu		/cefs/higgs/zhangkl/Production/25036/E91.2_eeuu	25.3.6	2M	D	D	
80		ee->bb(withoutISR)		/cefs/higgs/zhangkl/Production/25036/E80_eebb_woisr	25.3.6	100k	D	D	
120		ee->bb(withoutISR)		/cefs/higgs/zhangkl/Production/25036/E120_eebb_woisr	25.3.6	100k	D	D	
160		ee->bb(withoutISR)		/cefs/higgs/zhangkl/Production/25036/E160_eebb_woisr	25.3.6	100k	D	D	
200		ee->bb(withoutISR)		/cefs/higgs/zhangkl/Production/25036/E200_eebb_woisr	25.3.6	100k	D	D	
240		ee->bb(withoutISR)		/cefs/higgs/zhangkl/Production/25036/E240_eebb_woisr	25.3.6	500k	D	D	
240	H124.8	mm	inclusive		25.3.7	15k	D	D	
	H124.95	mm	inclusive		25.3.7	15k	D	D	
	H125.05	mm	inclusive		25.3.7	15k	D	D	
	H125.2	mm	inclusive		25.3.7	15k	D	D	

240	4f	zz_h0utut		/cefs/higgs/zhangkl/Production/25036/4fermions	25.3.6	400k	D		
		zz_h0dtdt			25.3.6		D		
		zz_h0uu_notd			25.3.6		D		
		zz_h0cc_nots			25.3.6		D		
		ww_h0cuxx			25.3.6		D		
		ww_h0uubd			25.3.6		D		
		ww_h0uusd			25.3.6		D		
		ww_h0ccbs			25.3.6		D		
		ww_h0ccds			25.3.6		D		
		zzorww_h0ududd			25.3.6		D		
		zzorww_h0cscs			25.3.6		D		
		zz_sl0nu_up			25.3.6		D		
		zz_sl0tau_down			25.3.6		D		
		zz_sl0mu_down			25.3.6		D	D	
		zz_sl0nu_down			25.3.6		D		
		zz_sl0tau_up			25.3.6		D		
		zz_sl0mu_up			25.3.6		D	D	
		ww_sl0tauq			25.3.6		D		
		ww_sl0muq			25.3.6		D	D	
		zz_l04tau			25.3.6		D		
		zz_l04mu			25.3.6		D	D	
		zz_l0taumu			25.3.6		D	D	
		zz_l0mumu			25.3.6		D	D	
		zz_l0tautau			25.3.6		D		
		ww_l0ll			25.3.6		D	D	
		zzorww_l0mumu			25.3.6		D		
		zzorww_l0tautau			25.3.6		D		
		sze_l0tau			25.3.6		D		
		sze_l0mu			25.3.6		D		
		sze_l0e			25.3.6		D		
		sze_sl0dd			25.3.6		D		
		sze_sl0uu			25.3.6		D		
		sze_l0nunu			25.3.6		D		
		sw_sl0qq			25.3.6		D		
		sw_l0tau			25.3.6		D		
		sw_l0mu			25.3.6		D		
		sznu_l0mumu			25.3.6		D		
		sznu_l0tautau			25.3.6		D		
		sznu_sl0nu_up			25.3.6		D	D	
		sznu_sl0nu_down			25.3.6		D		
240		vv	bb	/cefs/higgs/zhangkl/Production/25037/joi	25.3.7	1M	D	D	
		vv	cc	/cefs/higgs/zhangkl/Production/25037/joi	25.3.7	1M	D	D	
		vv	gg	/cefs/higgs/zhangkl/Production/25037/joi	25.3.7	1M	D	D	
		vv	uu	/cefs/higgs/zhangkl/Production/25037/joi	25.3.7	1M	D	D	
		vv	ss	/cefs/higgs/zhangkl/Production/25037/joi	25.3.7	1M	D	D	
		vv	dd	/cefs/higgs/zhangkl/Production/25037/joi	25.3.7	1M	D	D	

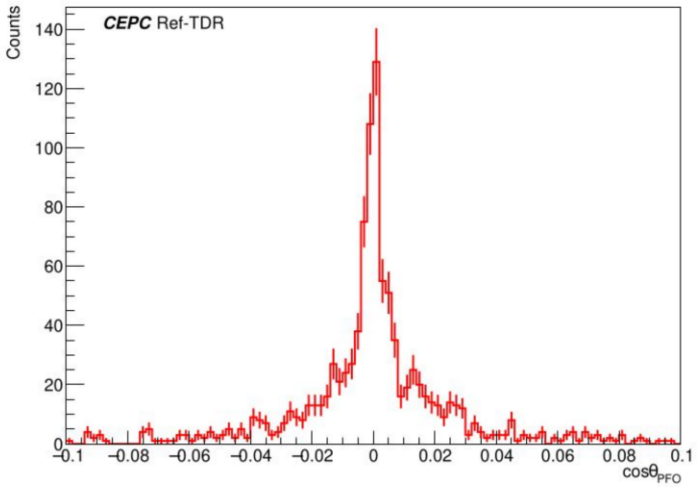
Sample name convention, cross section:
https://docs.ihep.ac.cn/link/AA749814584F654E8FBAADA4D766223B1F

https://docs.ihep.ac.cn/link/AR7D1FA68DEEB54F6782D63CF312B747C1

A_{FB} : Assemetry $Z \to \mu\mu$

@Jiawei, Shuo

- 增加了 |costheta_CM| > 0.05 cut，把forward-backward 误判的误差从5e-5降低到2e-6



原本1029个误判事例的costheta_CM分布

|costheta_CM| > 0.05，之后，仅剩53个误判事例

Todo list

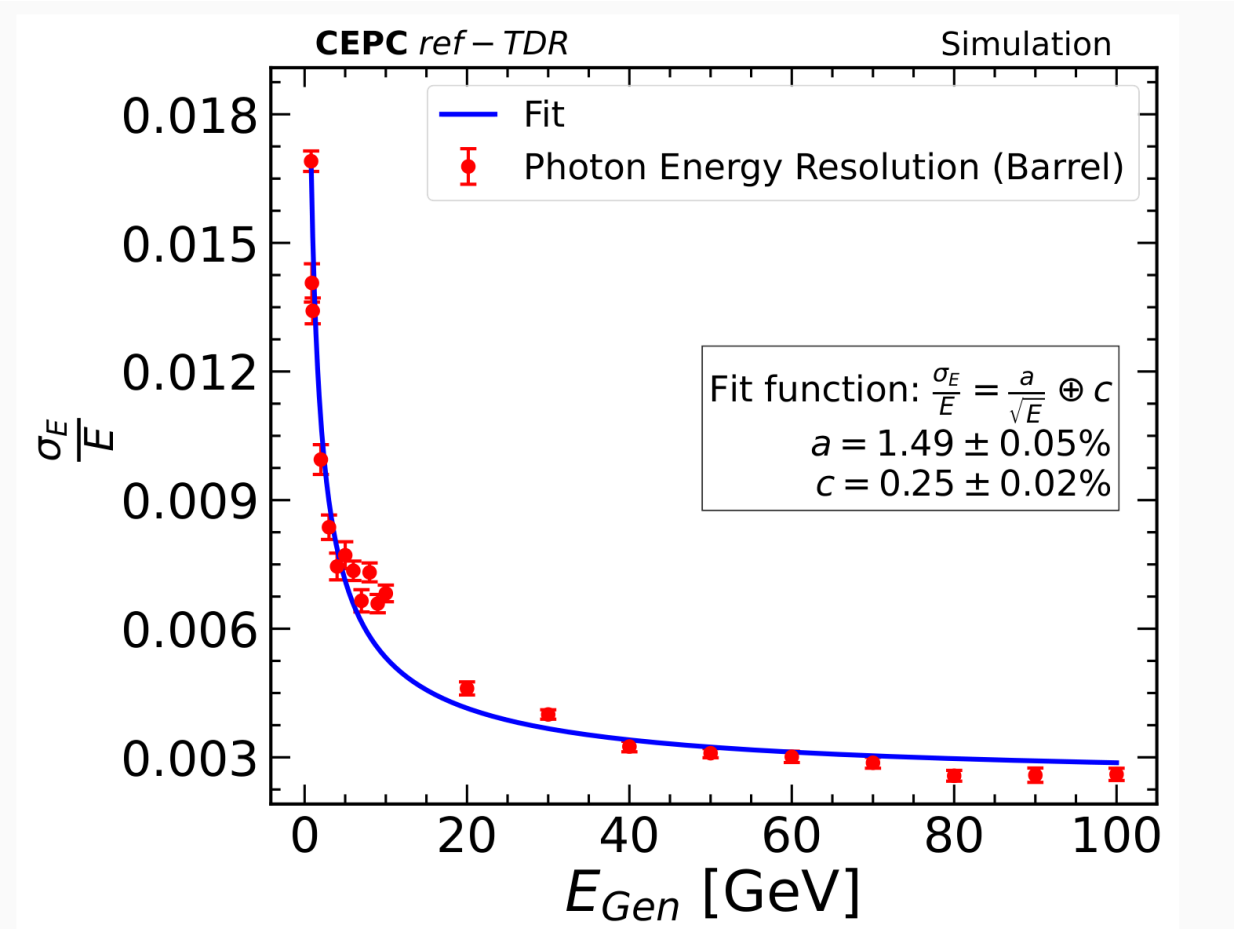
- Some minor corrections due to the inconsistency in workflow: no change on conclusions
- Including muon detector hits in muon ID
  - Samples are ready, expect fewer mis-ID events, will update the results
- Check the contamination of Z->ee
  - Should be lower than Z->tautau and no impact on conclusion, will check
- Re-optimize selections
  - Now the selection eff is ~80%, need to be improved

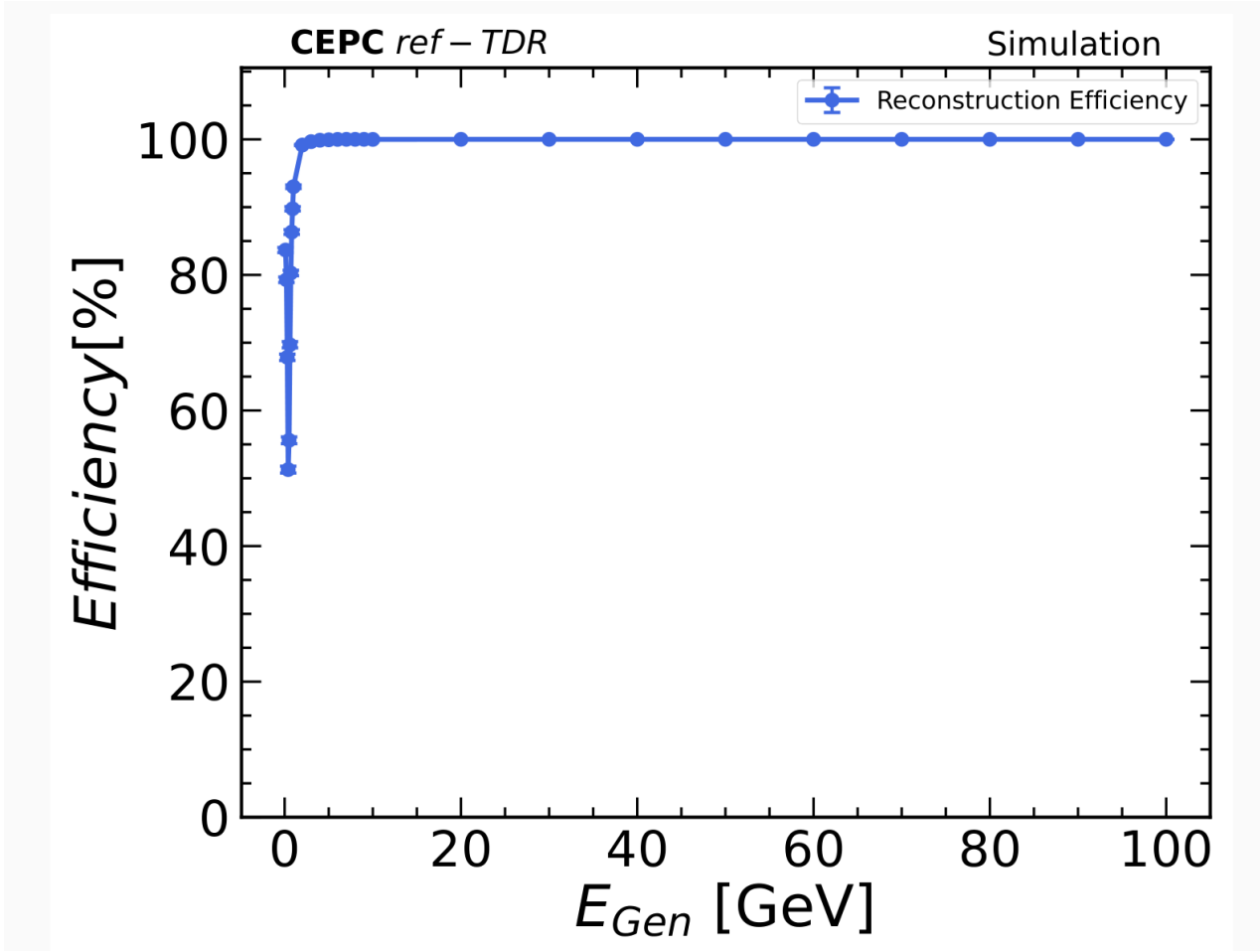
Photons

@Reda

Photon id, H to diphoton analysis under preparing.

Photon eff ~100% due to excluding the converted photons.
Will change the definition next time.





TDR Physics and Performance

- https://latex.ihep.ac.cn/project/668baad1fac5797081d0ee3f
- Merged to upstream and submit to committee last week.

Contents