

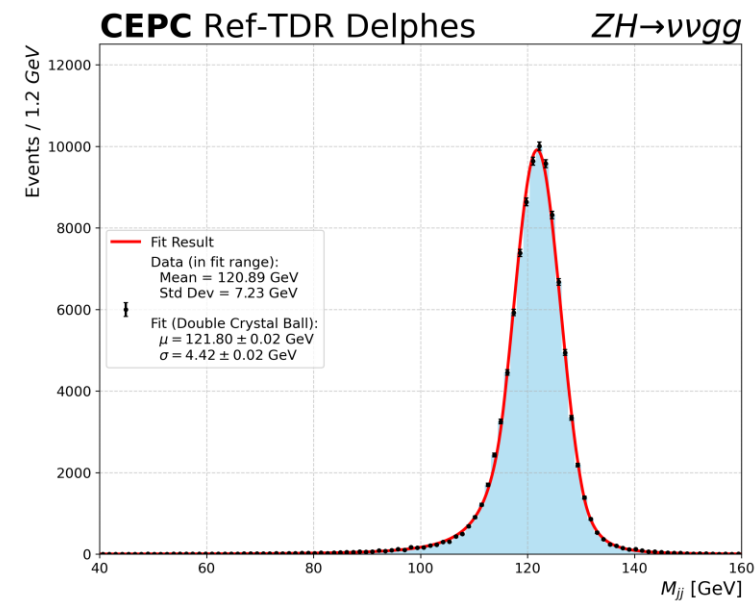
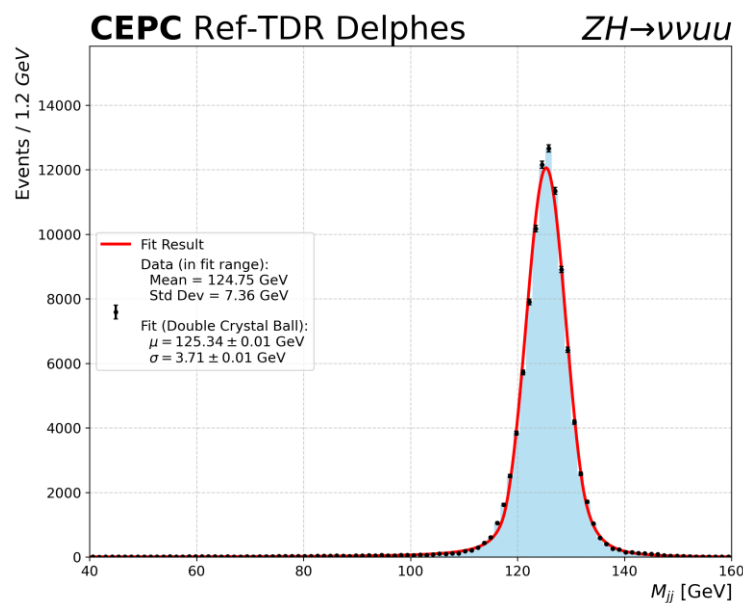
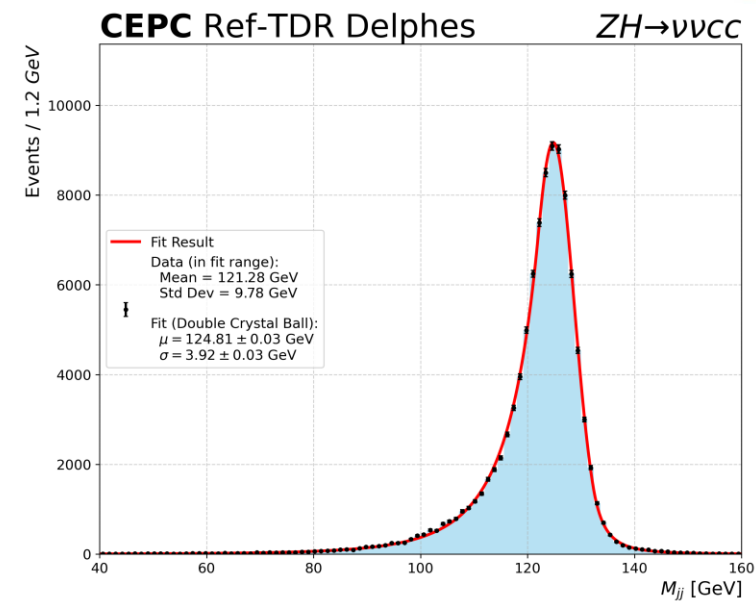
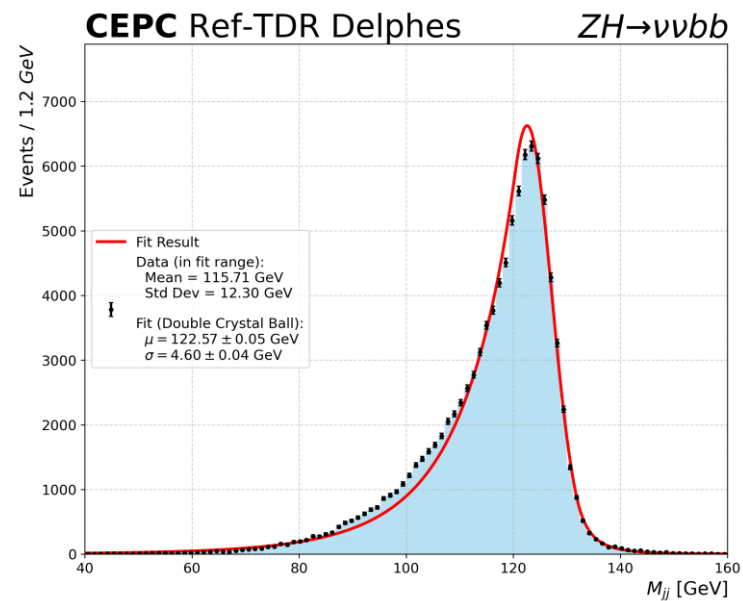


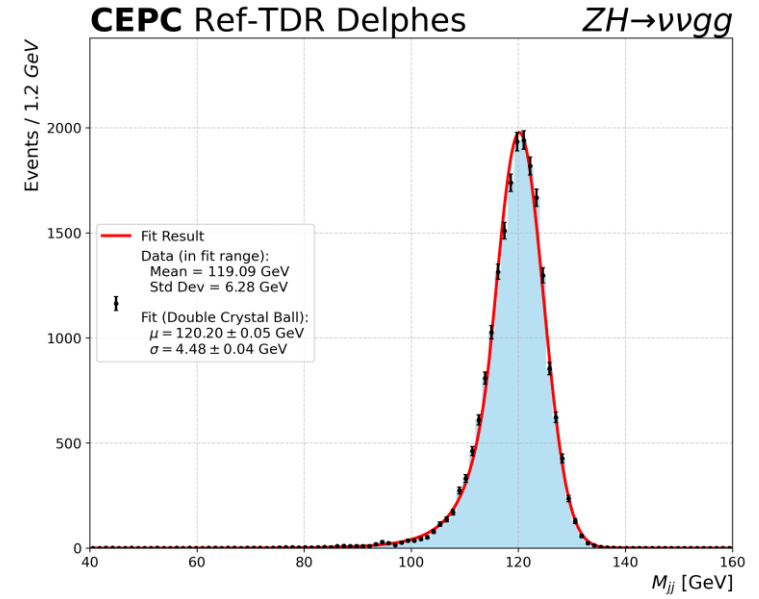
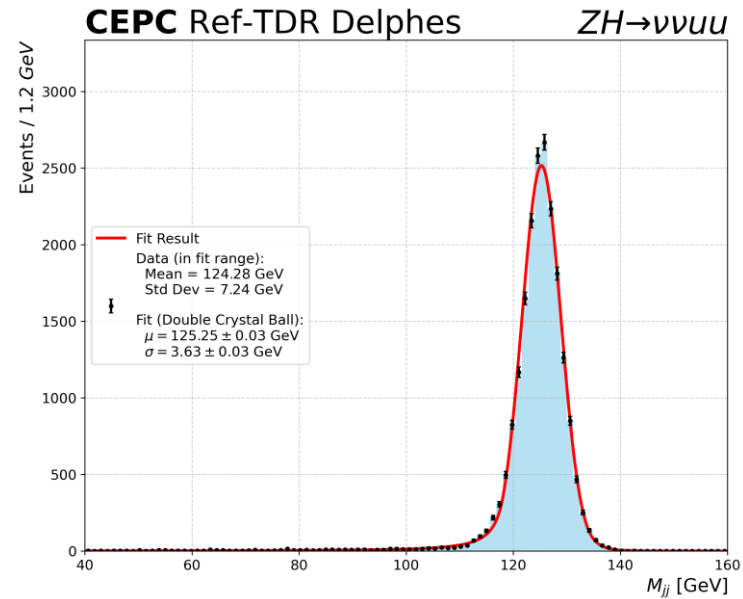
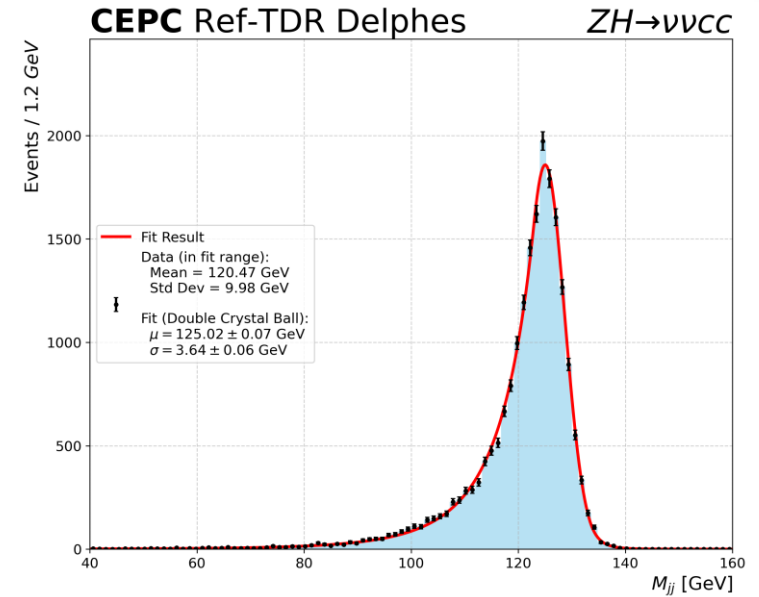
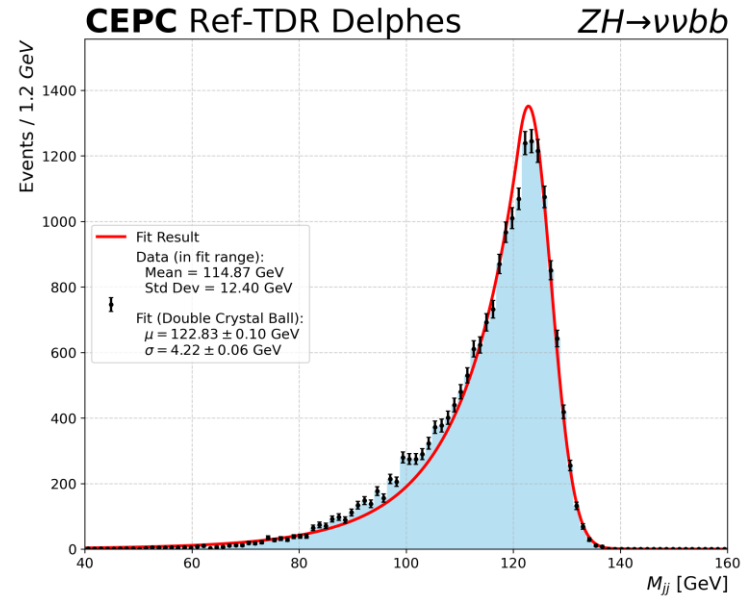
MC Generator Test

Kaili Zhang

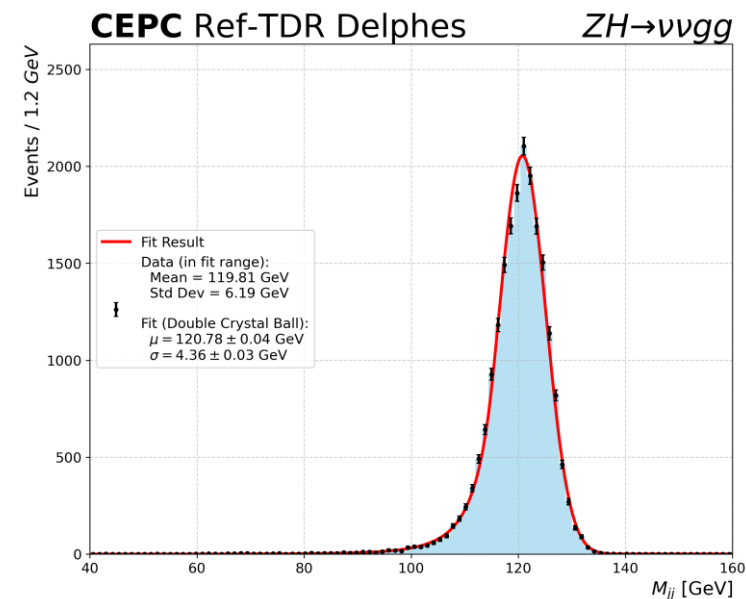
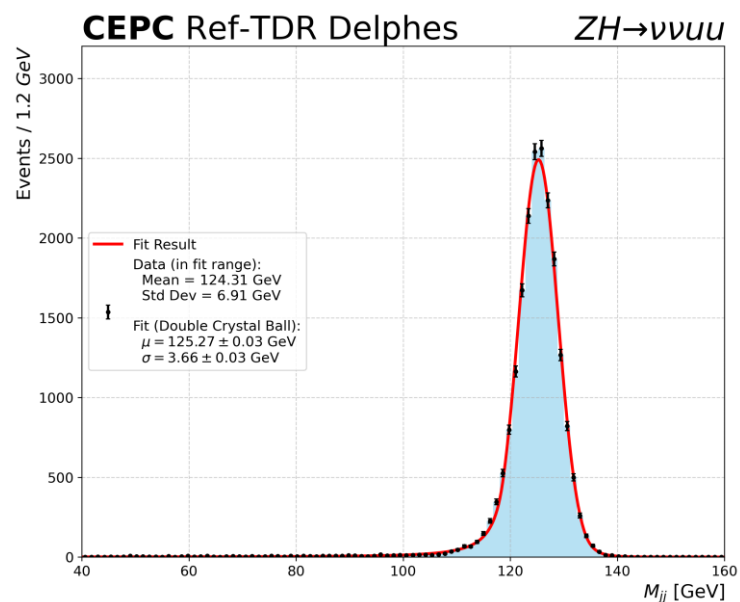
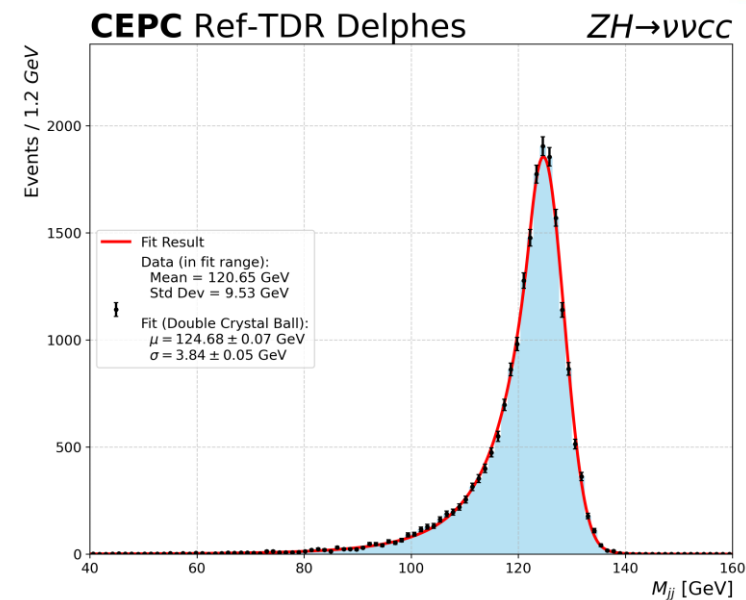
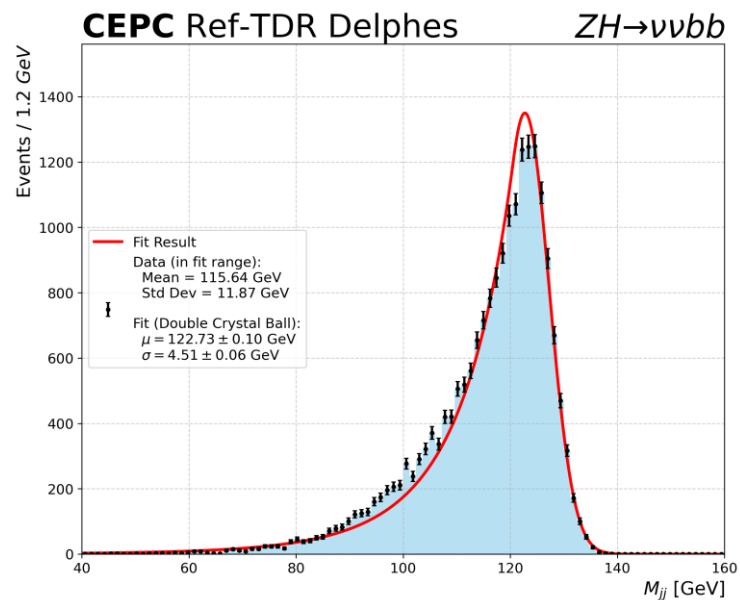
zhangkl@ihep.ac.cn

Whizard1.9.5+Pythia6.3





Madgraph3.6.2+Herwig7.2.3



Ratio(%)	ZH->vvuu, U Jet			ZH->vvss, S Jet		
	Whizard+Py6	MadGraph+Py8	MadGraph+Hw7	Whizard+Py6	MadGraph+Py8	MadGraph+Hw7
E	0.29	0.30	0.33	0.27	0.29	0.28
Mu	0.01	0.01	0.03	0.01	0.03	0.01
Pion	44.06	44.10	42.69	42.64	41.42	42.90
Kaon	4.79	5.32	5.49	7.17	7.83	7.85
Proton	3.19	2.56	3.69	3.08	3.5	2.5
Photon	35.69	35.59	34.89	33.34	32.54	33.09
Others	11.96	12.13	12.88	13.48	14.39	13.37

S jet has more Kaons;

Madgraph + Py8 and Hw7 has 10% more Kaons than Whizard+Py6.

Others includes Klong, Kshort, n, lambda...

Cross Section Madgraph/Whizard: E240 ZH



Process	MadGraph	Whizard		
Z->ee	6.986	7.04	0.77%	
Z->mm	6.727	6.77	0.64%	
Z->tautau	6.712	6.75	0.56%	
Z->vv	46.09	46.29	0.43%	
Z->qq	135.7	136.81	0.81%	
Total	202.215	203.66	0.71%	

Madgraph take 0.7% smaller cross section. Both ISR on, both includes fusion.

->In 4M Higgs it's 3000.

Madgraph use PDF = isronlyll.

- Now 3 types of generators ready to use. @Jianfeng.
 - ISR and PDF issues solved.
 - New versions of MadGraph+P8/H7 includes more corrections.
 - More checks like JOI undergoing.