



# CEPC Jet&Clusters

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# CEPWSW latest



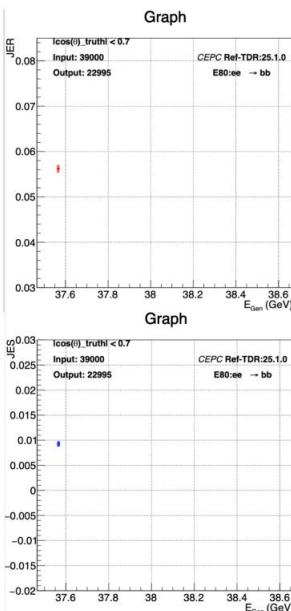
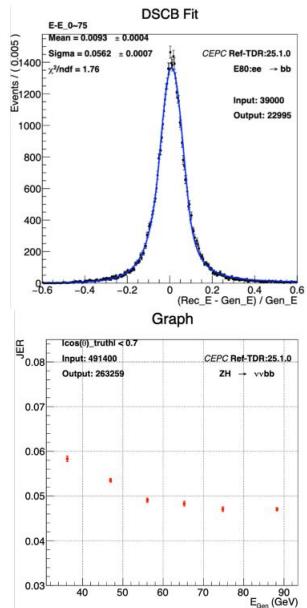
- Latest Release 25.1.2
  - Calo 15mm release in [https://code.ihep.ac.cn/guofangyi/cepcsw-release/-/tree/calorec\\_Ecal15mm?ref\\_type=heads](https://code.ihep.ac.cn/guofangyi/cepcsw-release/-/tree/calorec_Ecal15mm?ref_type=heads), to be used;
- Memory usage:
  - sim, digi, trk ~6GB. rec: 8GB.
  - New samples are generated in different step to reduce memory usage.
- Path:
  - /cefs/higgs/zhangkl/Production/2501
  - /cefs/higgs/zhangkl/Production/2501/eeqq
- Current cefs OK. (I take ~500T of them)

# Jet Performance before New Year



@Yingqi, Xiaotian

JER/JES on ee->bb, 80GeV



H->bb, 40GeV ~5.6%.

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Case	process	ZH → vvgg	ZH → vvbb	ZH → vvcc	ZH → vvuu	ZH → vvdd	ZH → vvss
Physical level	BMR/%	$4.00 \pm 0.01$	$4.36 \pm 0.03$	$4.15 \pm 0.02$	$3.80 \pm 0.01$	$3.97 \pm 0.01$	$4.44 \pm 0.01$
	Efficiency/%	<b>73.3</b>	<b>73.7</b>	<b>74.0</b>	<b>74.1</b>	<b>74.1</b>	<b>74.1</b>

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# Contents in TDR



- Jet Performance

- Jet Analysis

- Samples

## 书签

· 1 Detector and Physics performance
1.1 Introduction
· 1.2 Detector Performance
· 1.2.1 Tracking (Chenguang Zhang, Hao Zhu, et al.)
1.2.1.1 Tracking efficiency
1.2.1.2 Momentum resolution
1.2.1.3 Impact parameter resolution
· 1.2.2 Performance of Photon, Electron and Muon (Ligang Xia, Reda, Danning Liu, et al.)
1.2.2.1 Identification of Photon, Electron and Muon
1.2.2.2 Photon energy resolutions
1.2.2.3 Electron momentum resolutions
1.2.2.4 Muon momentum resolutions
1.2.3 PID for Charged Hadrons (Chenguang Zhang, Xiaotian Ma, et al.)
· 1.2.4 Jets (Kaili Zhang, Xiaotian Ma, Yingqi Hou, Chenguang Zhang, Jiarong Li, et al.)
1.2.4.1 Jet Energy Resolution in events
1.2.4.2 Jet performance in physics events
· 1.2.5 Vertexing (Chenguang Zhang, et al.)
1.2.5.1 Vertex Efficiency
1.2.5.2 Vertex Resolution
1.2.6 Jet Flavor Tagging - traditional way (Chenguang Zhang, et al.)
1.2.7 Jet Origin ID (Manqi Ruan, Kaili Zhang, et al.)
· 1.3 Physics Benchmarks
· 1.3.1 Event Generation (Kaili Zhang, Gang Li, et al.)
1.3.1.1 Monte Carlo event generators
1.3.1.2 Generated signal and background samples
· 1.3.2 Analysis Tools
1.3.2.1 Multivariate analysis tools
1.3.3 Higgs mass and production cross-section through recoil mass (Mingshui Chen, et al.)
1.3.4 Branching ratios of the Higgs boson in hadronics final states (Yanping Huang, et al.)
1.3.5 (Yaquan Fang, et al.)
1.3.6 (Mingshui Chen, et al.)
1.3.7 Weak mixing angle (Zhijun Liang, Bo Liu, et al.)
1.3.8 A channel in flavor physics (Shanzhen Chen, et al.)
1.3.9 top mass and width (Xiaohu Sun, et al.)
1.3.10 W fusion cross section (Hongbo Liao, et al.)
1.3.11 Long-lived particles (Liang Li, et al.)
1.3.12 smuon (Xuai Zhuang, et al.)
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· 1.4 Challenges & Plan
1.4.1 Strategy for the measurement of absolute luminosity
1.4.2 Plan of the use of resonant depolarization for W/Z mass (Zhe Duan)
1.4.3 Methods & Considerations for Calibration, Alignment (Jin Wang)
1.4.4 Further technology decisions/detector optimization
1.5 Summary

# New tutorial based in 25.1



- [https://code.ihep.ac.cn/zhangkl/cepcsw\\_tutorial](https://code.ihep.ac.cn/zhangkl/cepcsw_tutorial)
- For CEPCSW env, sample, analysis
- Please share to new comers.