CEPC Jet&Clusters

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New tutorial

- https://code.ihep.ac.cn/zhangkl/cepcsw_tutorial
- For CEPCSW env, sample, analysis
- Please share to new comers.

Quick look at Endcap

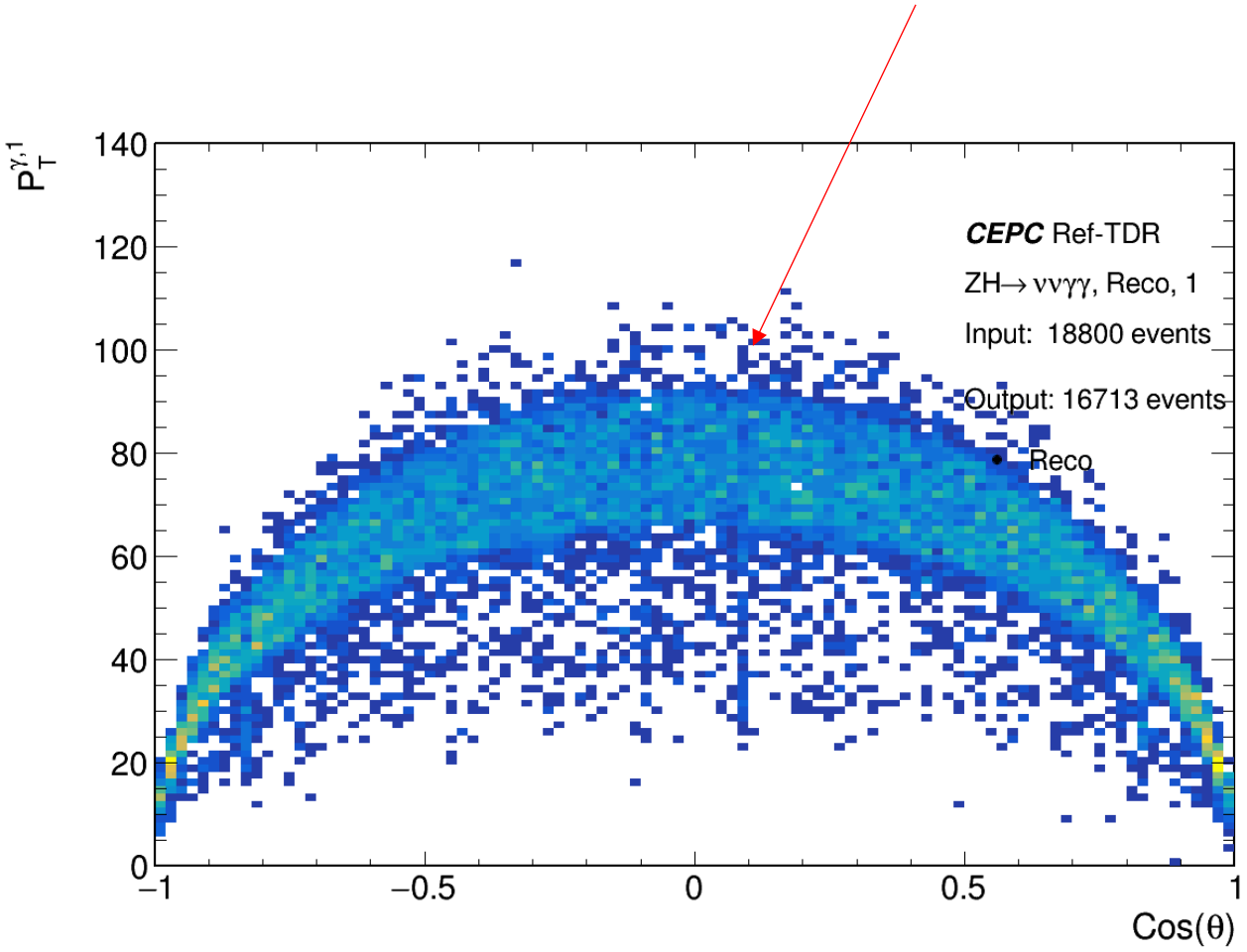
- Latest Release 25.01.
- Memory usage: sim, digi, trk ~6GB. rec: 8GB.
- Path: /cefs/higgs/zhangkl/Production/2501

- Cefs almost full. <100T.

```
192.168.50.114@tcp:/cefs        3.7P  3.5P   91T  98% /cefs
```

ee->ZH->vvyy

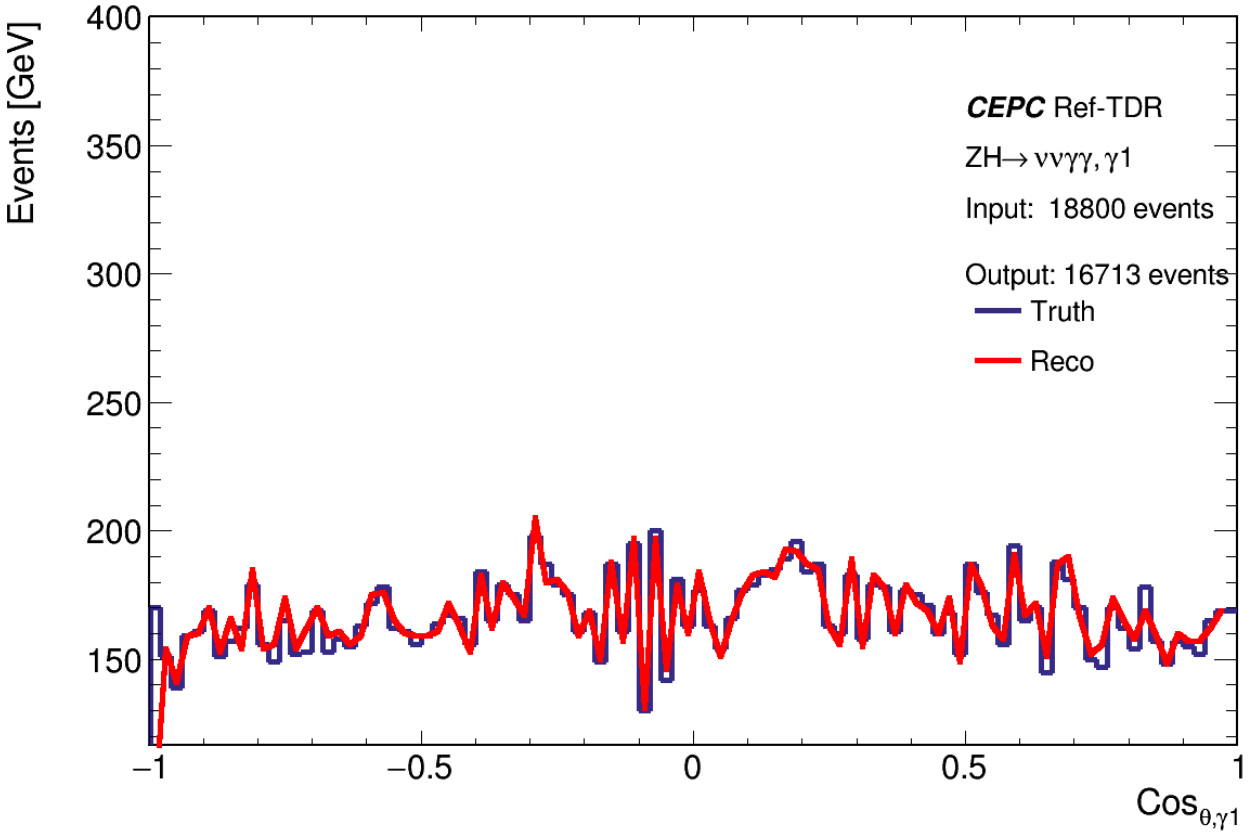
Cos theta=0.1 crack?

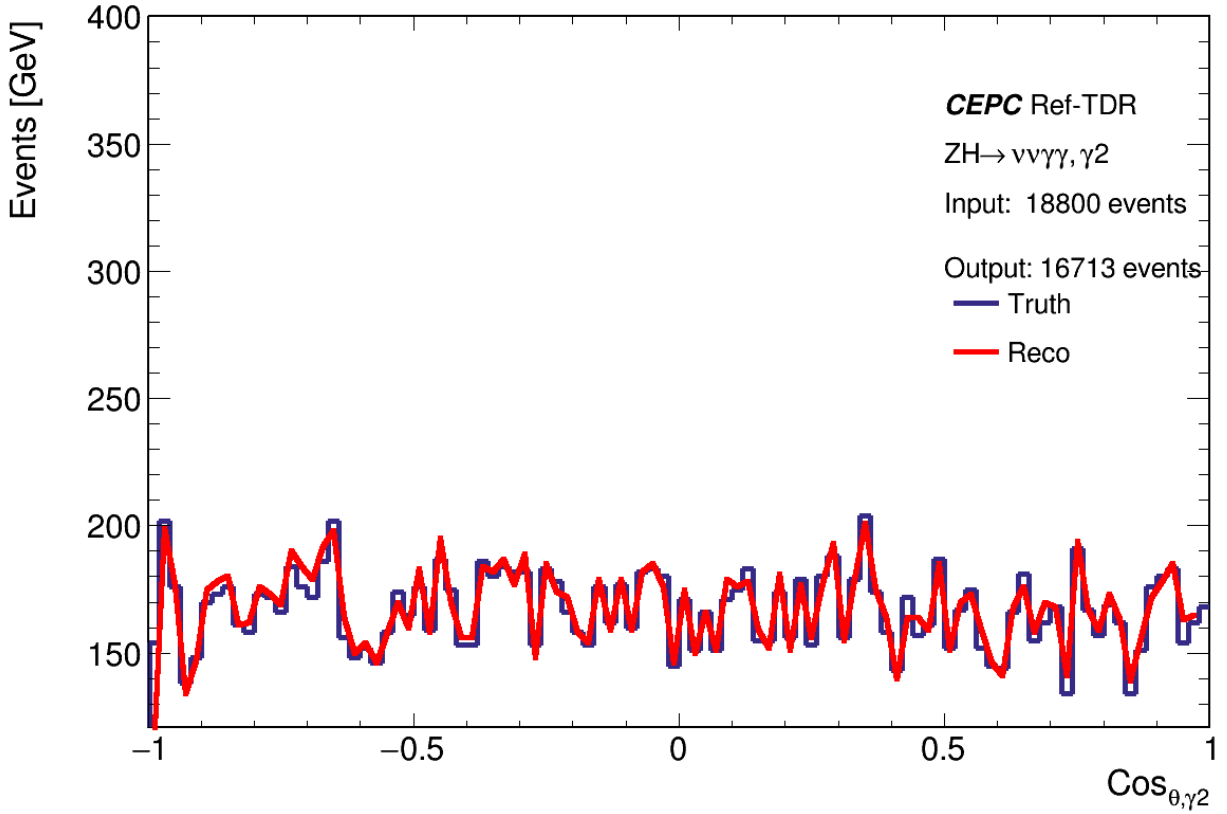


- We have the endcap response.
- Continuum costheta distribution and no crack ~0.85.

Truth/Reco photon cos theta

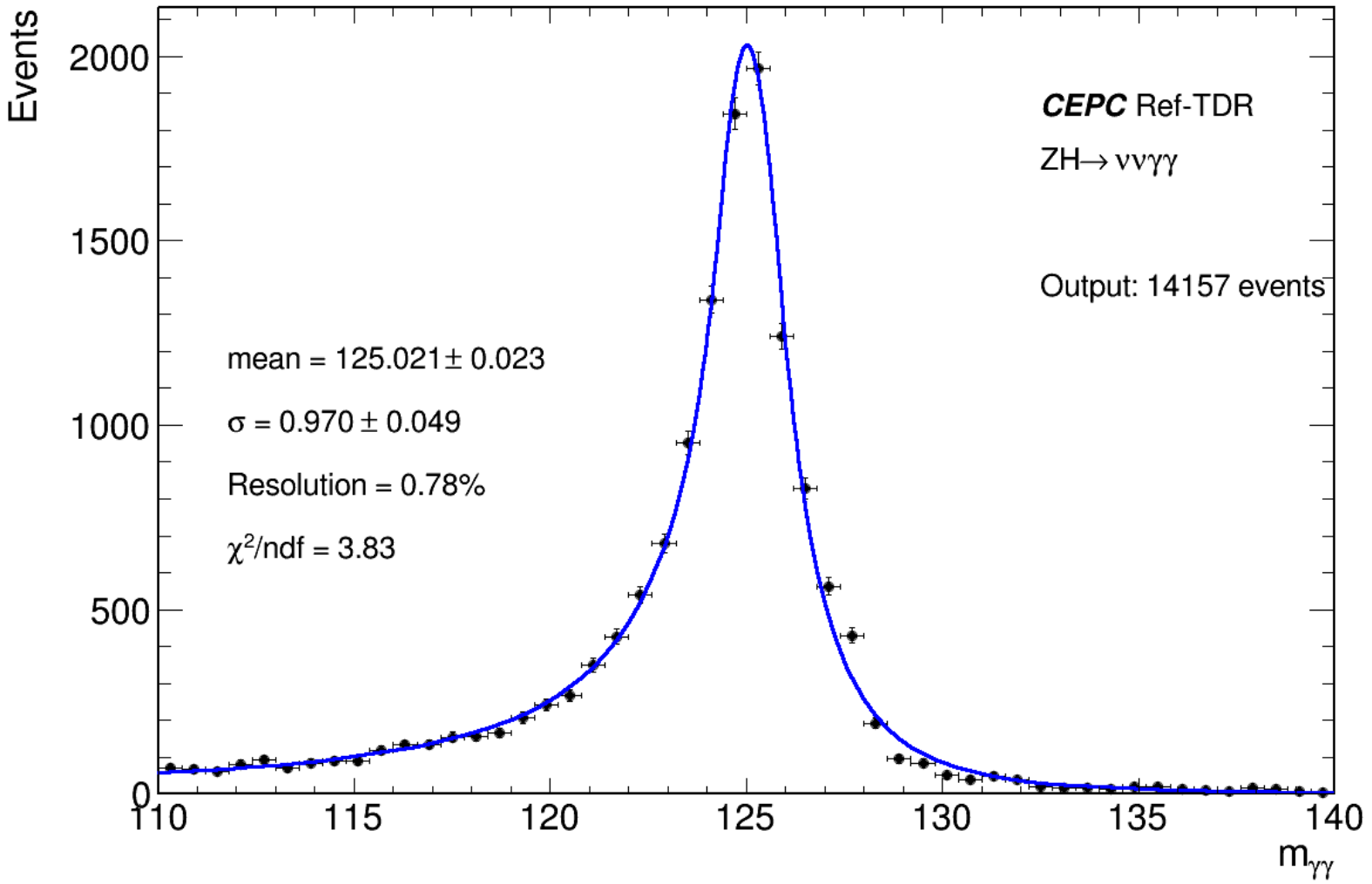
Reco costheta reach to 0.992.
(>0.992 dead response?)





M_yy resolution

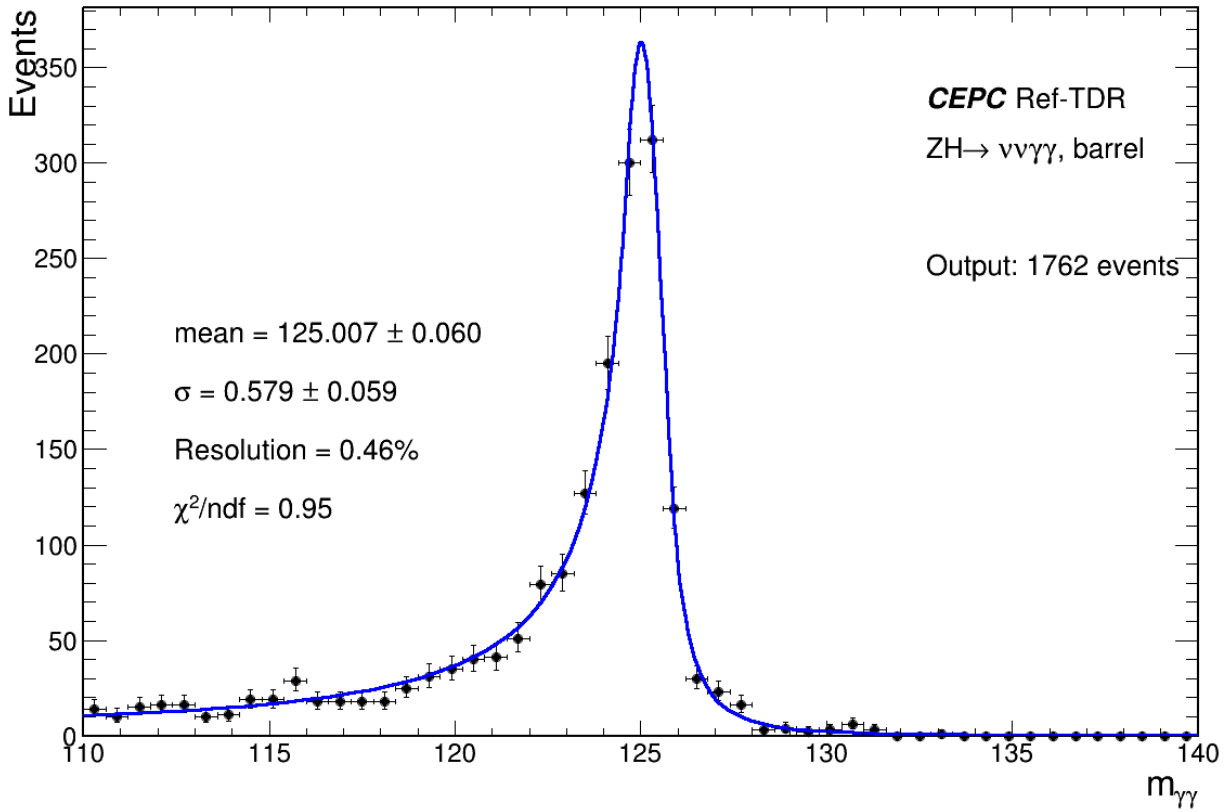
Barrel + Endcap



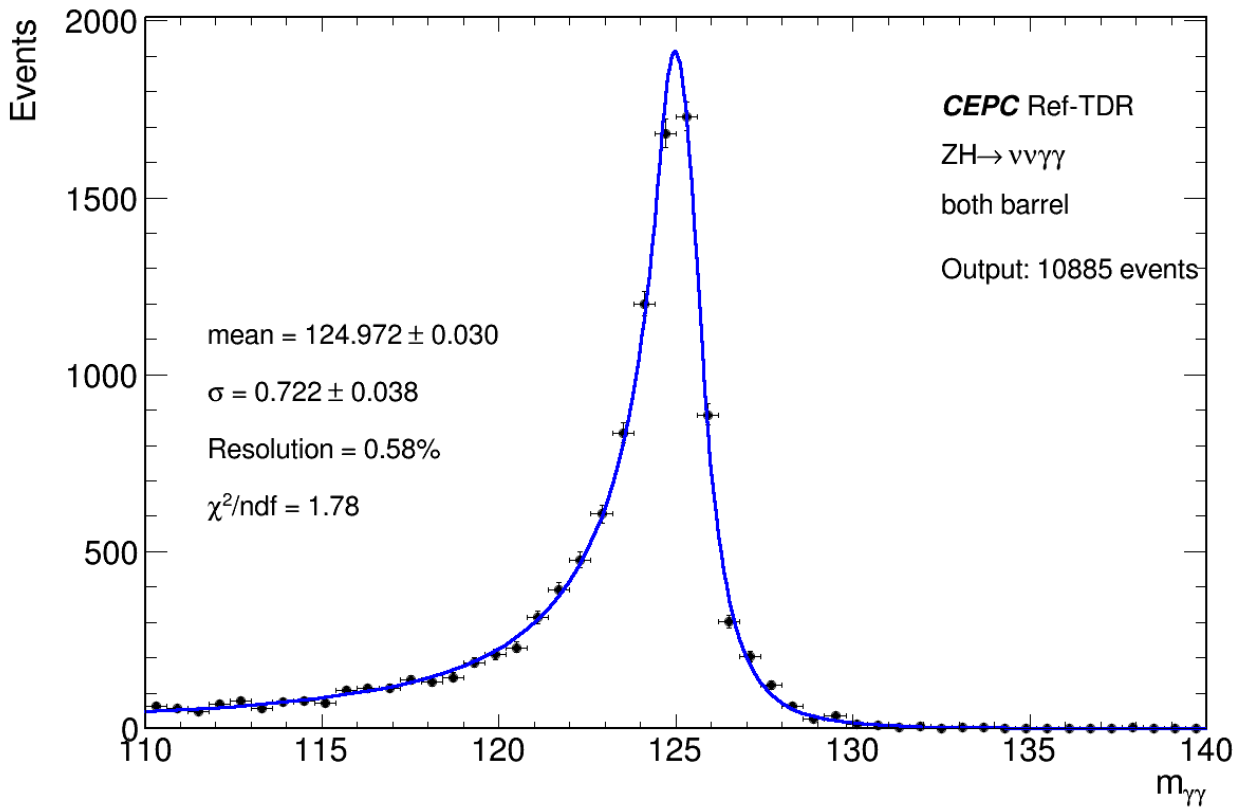
Barrel resolution

Both y1, y2 costheta<0.85

Before tdr25.1, only barrel



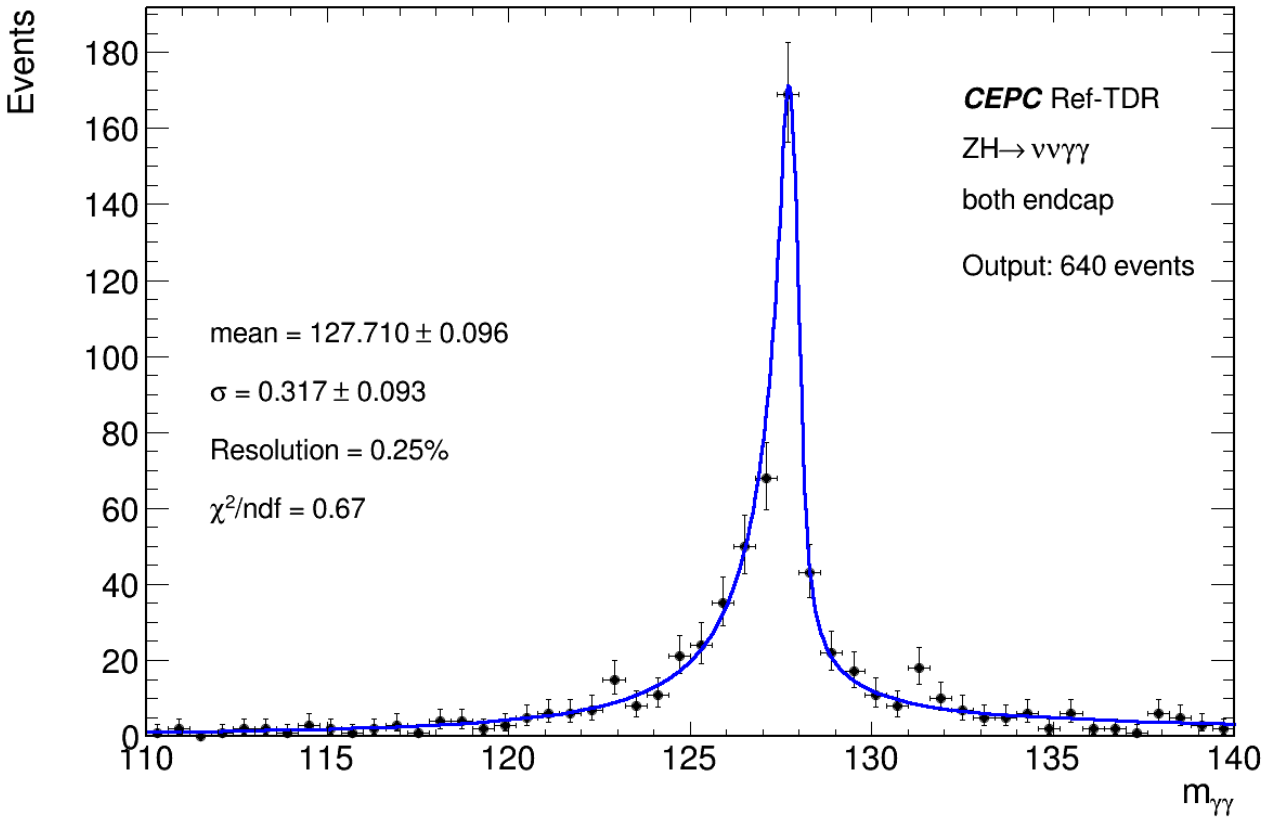
Latest



From PFA group, barrel BMR reduced from 3.8% to 4.2%. Also found in diphoton channel. By 25%.

Endcap resolution

Both y1, y2 costheta>0.85

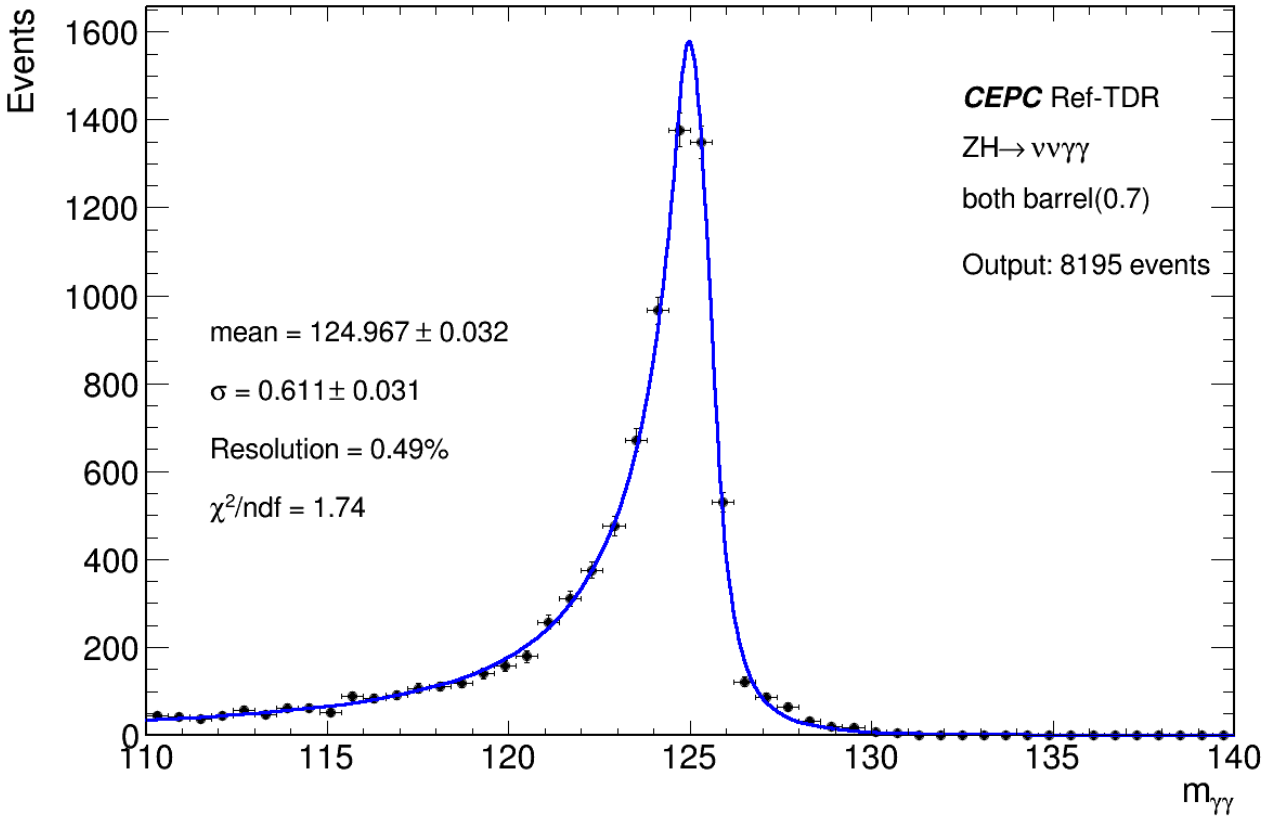


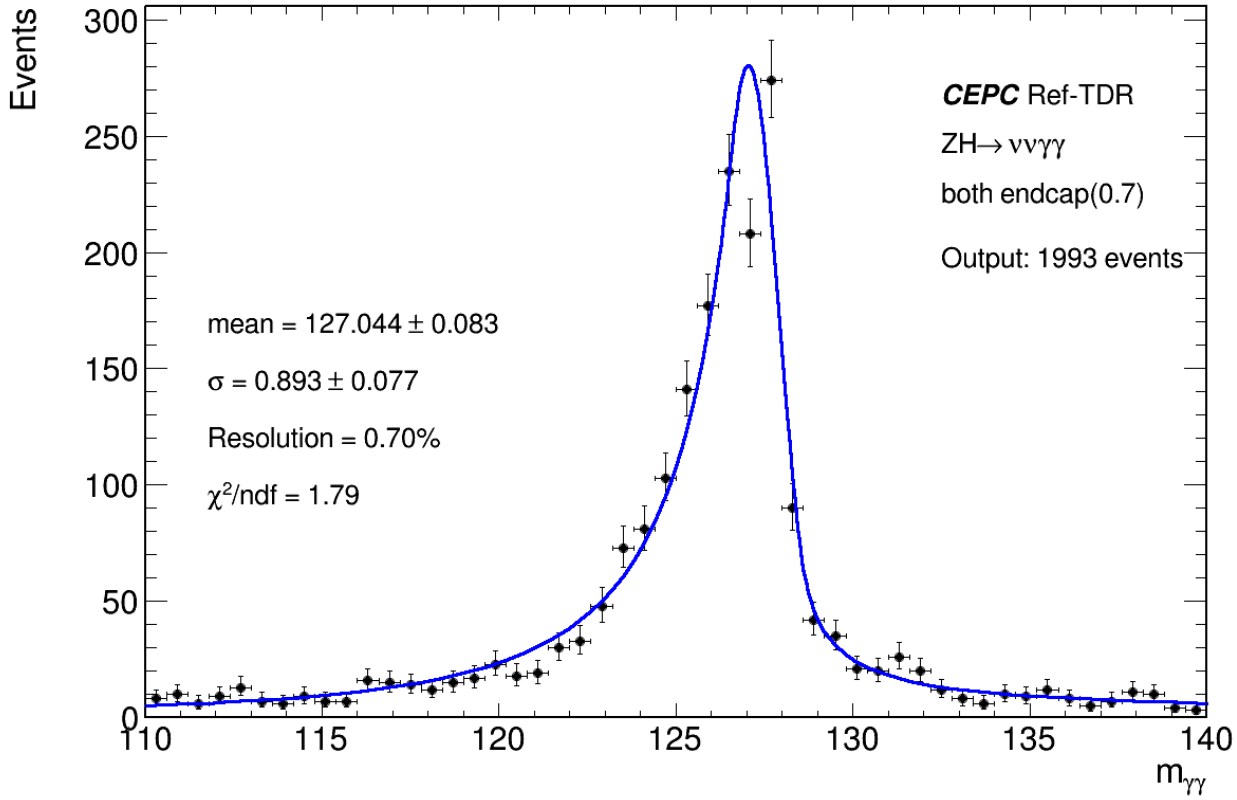
- Endcap with better resolution.
  - Better than barrel
- Right side tail
- Mean value->Calibration.
- We have endcaps. But may need further validations.

Angle at costheta 0.7

Past no endcap	0.46%
Now barrel (<0.85)	0.58%
Now barrel (<0.7)	0.49%

Now Endcap (>0.85)	0.25%
Now Endcap (>0.7)	0.70%





The “crack” region (both barrel calo and endcap calo contributed) need further study.