

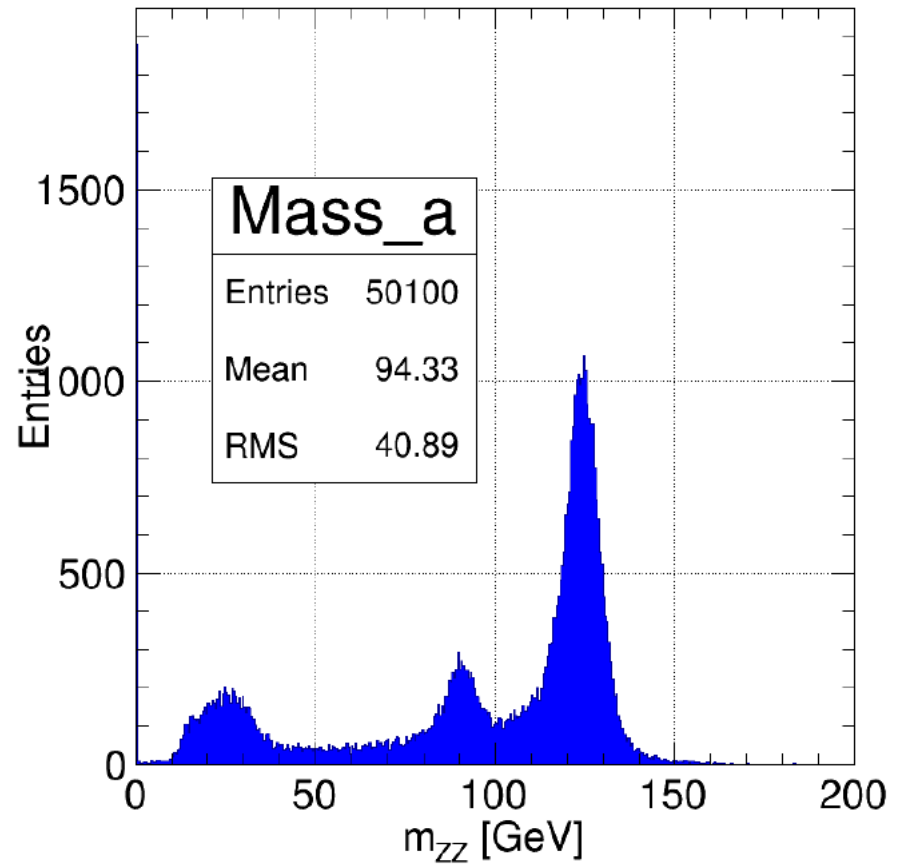
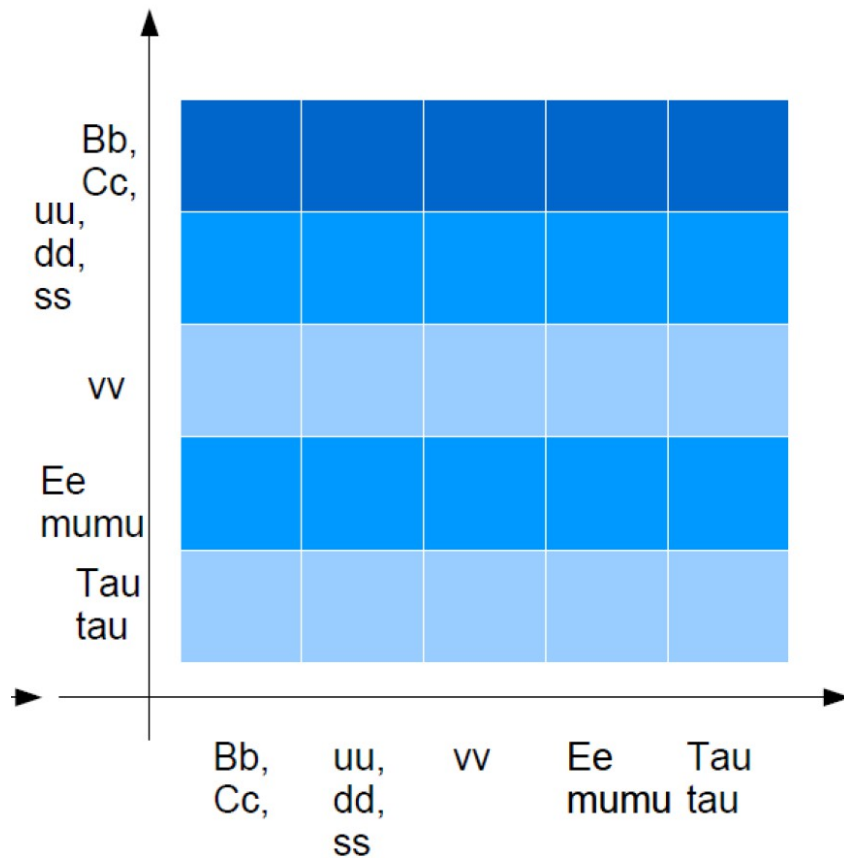


V4 Performance and Benchmark for the CDR

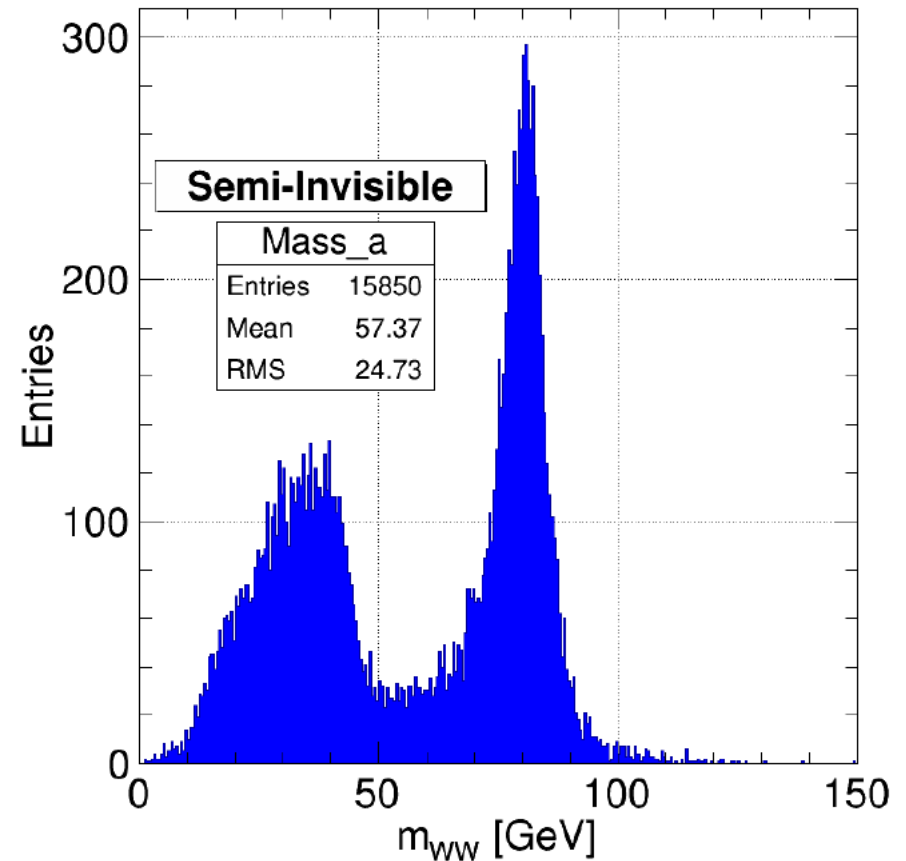
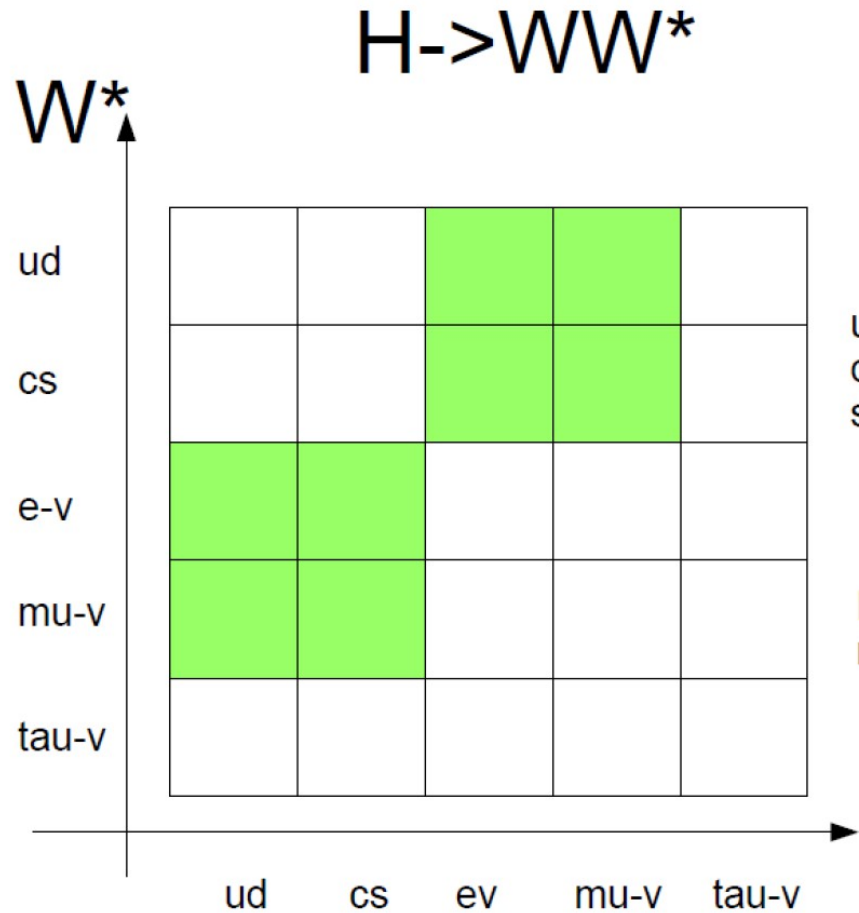
Manqi

Performance Validation at v4

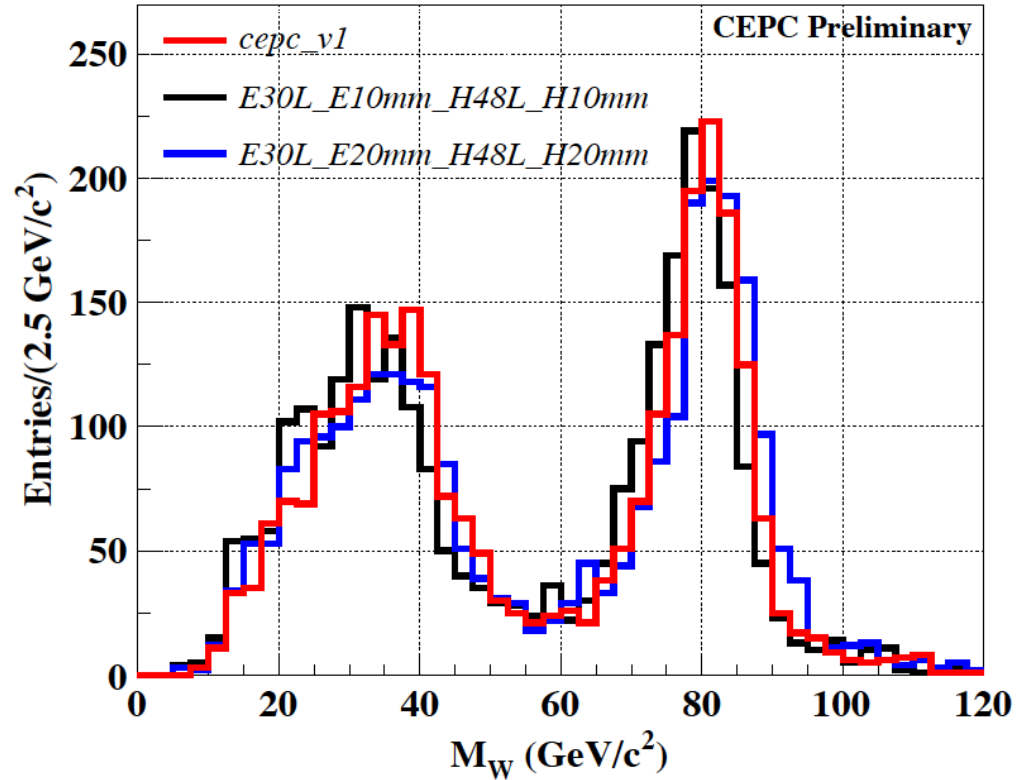
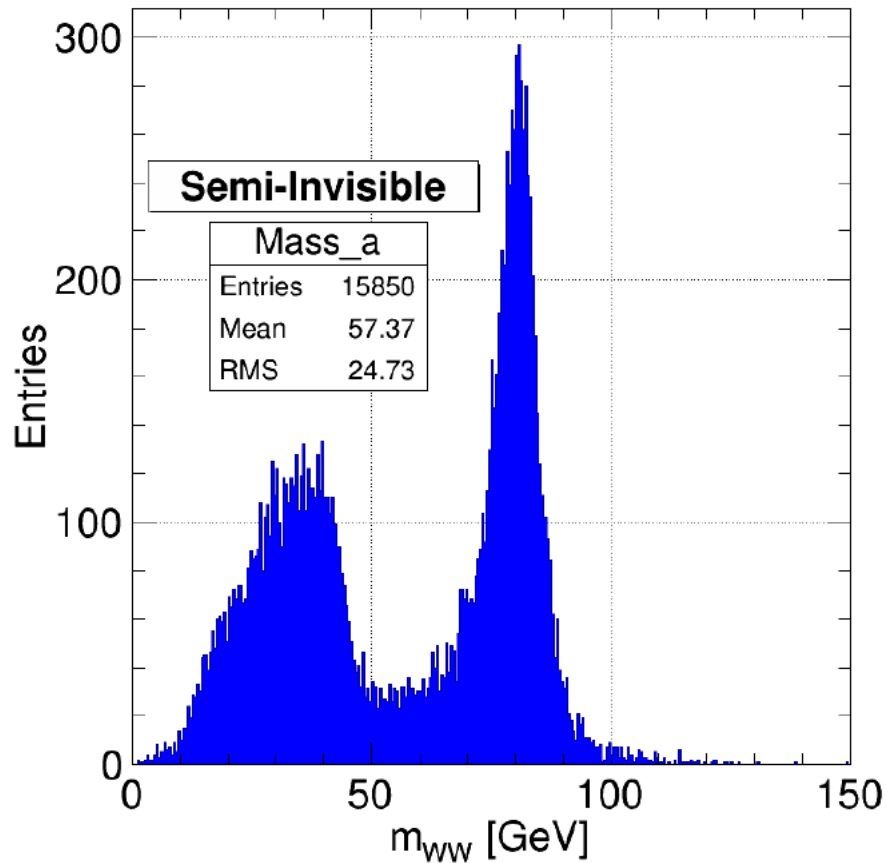
$H \rightarrow ZZ^*$



Performance Validation at v4



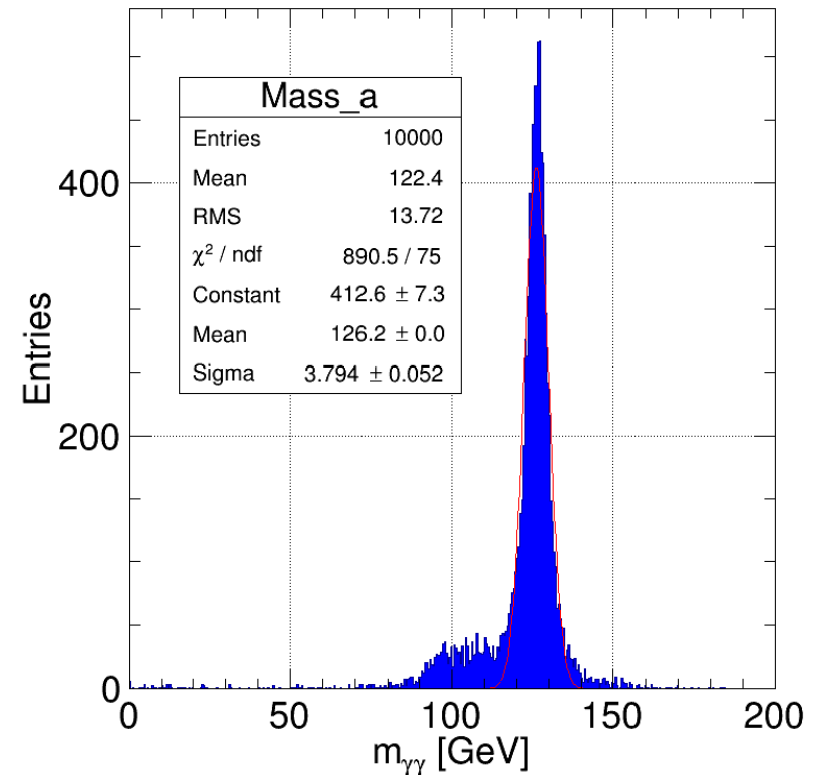
v1 vs v4



Better than the early anticipation (as the jet-reco is better optimized)

Reco. Problems on EM objects

- Electron Energy Estimation
- Photon Splitting
- Two weeks needed to fix these reco. Problem.



Benchmarks for v4

- $\mu\mu H, H \rightarrow X$ Lepton
- $\mu\mu H, H \rightarrow \tau\tau$ Lepton + tau finding
- $qqH, H \rightarrow \tau\tau$ Jets + tau finding
- $\nu\nu H, H \rightarrow bb$ Jets + MET, Flavor Tagging

- $\mu\mu H, H \rightarrow bb, cc, gg$ is almost ready (S@ 3 && B@ 3.5).
- I suggest other analyses simply quote the CEPC-v1 results.
- Would be good to have $XH, H \rightarrow \gamma\gamma, \mu\mu, WW^*$
 - *There are volunteers... but with limited experience.*

Manpower & resource

	Simulation	Background	Analyzer	Expected Time
• $\mu\mu H, H \rightarrow X$	v4	v4	Yu Dan	1 week
• $\mu\mu H, H \rightarrow \tau\tau$	v4	v4	Yu Dan	2 weeks
• $qqH, H \rightarrow \tau\tau$	v4	v1	Yu Dan	2 weeks
• $\nu\nu H, H \rightarrow bb$	v4	v1	Liang Hao	2 weeks

Dan is also busy with thesis polishing & paper.

In taking into account further iteration of reco.

We can produce 4 decent plots in 1.5 – 2 months.

We are hitting the limit of CPU power (I just send another mail Begging for more CPU).

More SKILLED analyzer = More plots