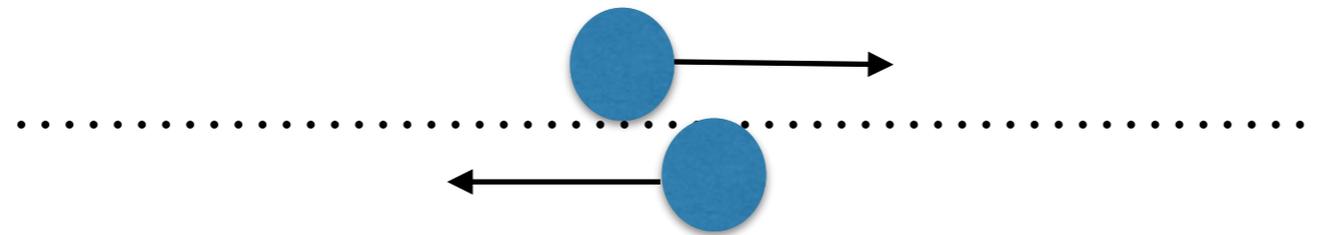# UPC status

KiSoo Lee

UPC(Ultra Peripheral Collision)
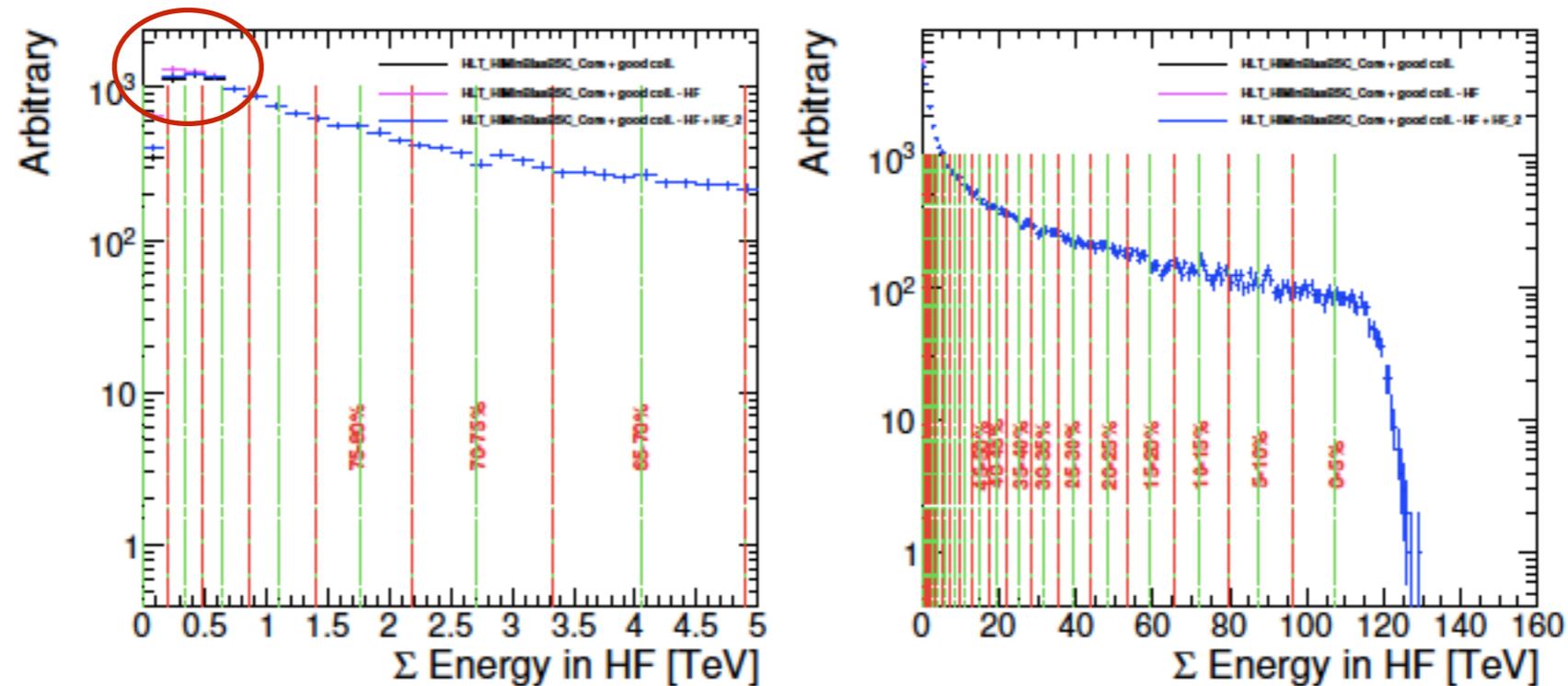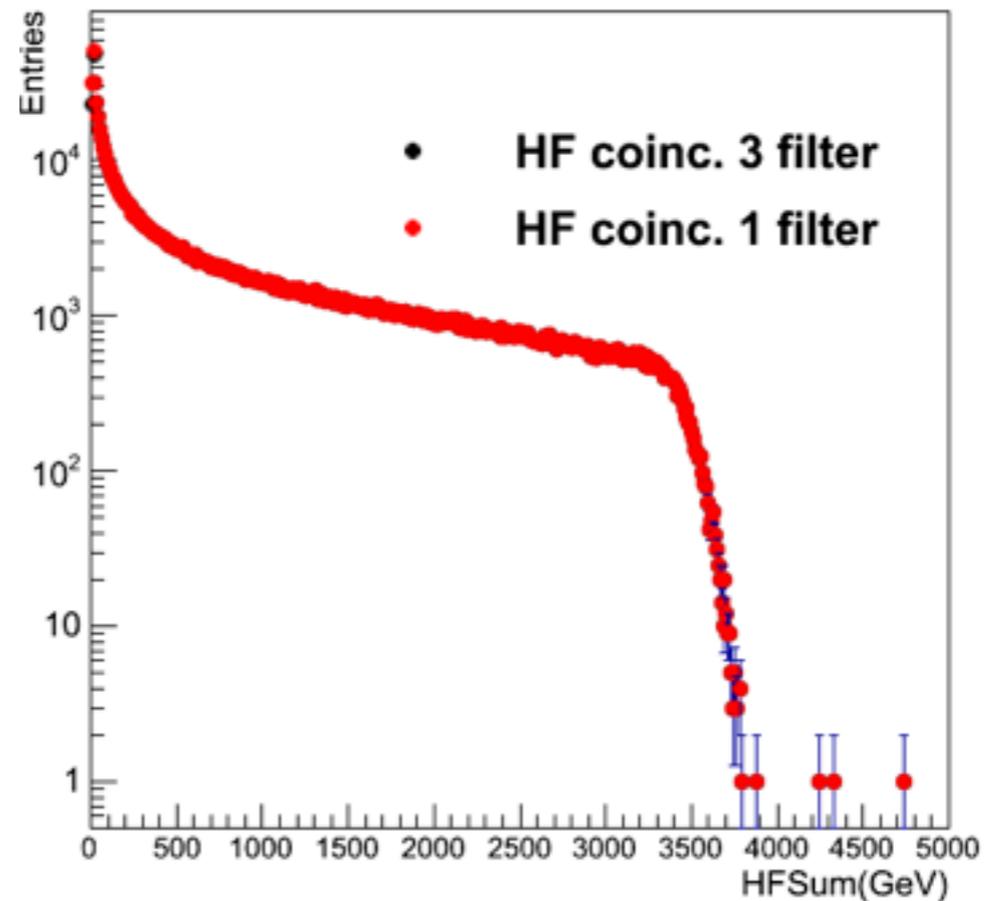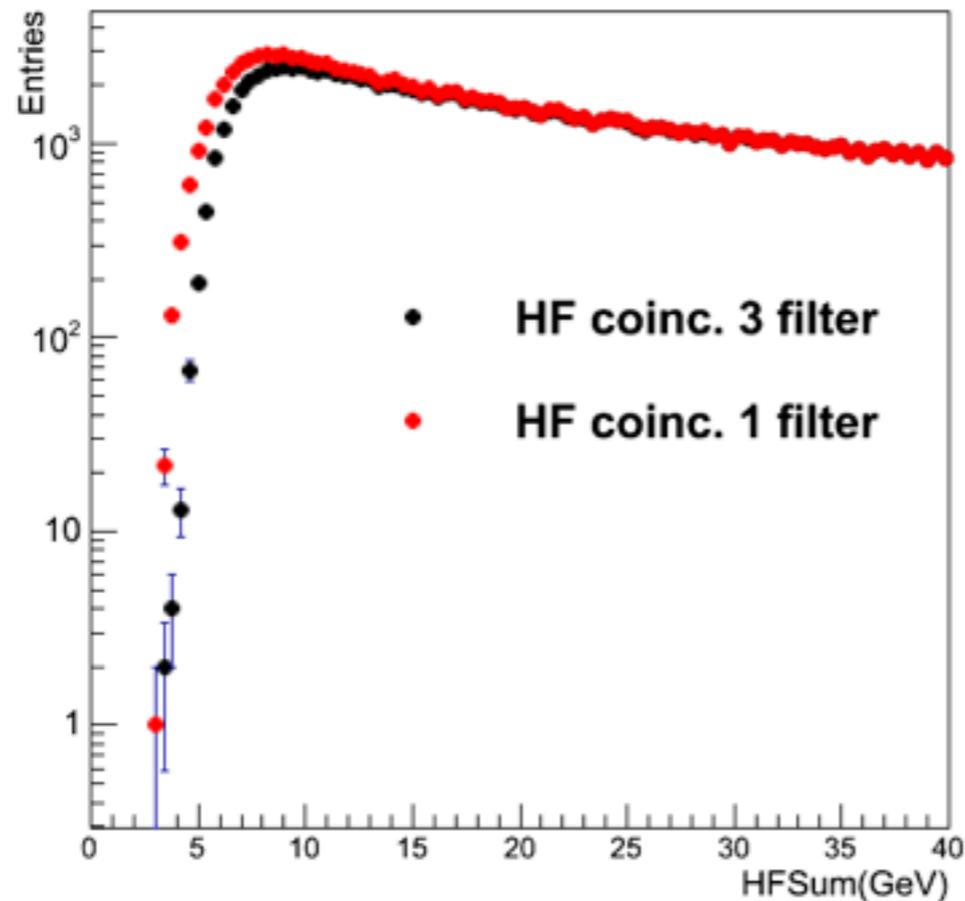
HF: 3<η<5

ZDC: 7<η<10

- UPC rarely produce high pt particles

- energy deposited in HF hit will be small, on the other hand, the ZDC energy will be high

- number of reconstructed hit in HF will be small, on the other hand, the the number of reconstructed hit in ZDC will be large
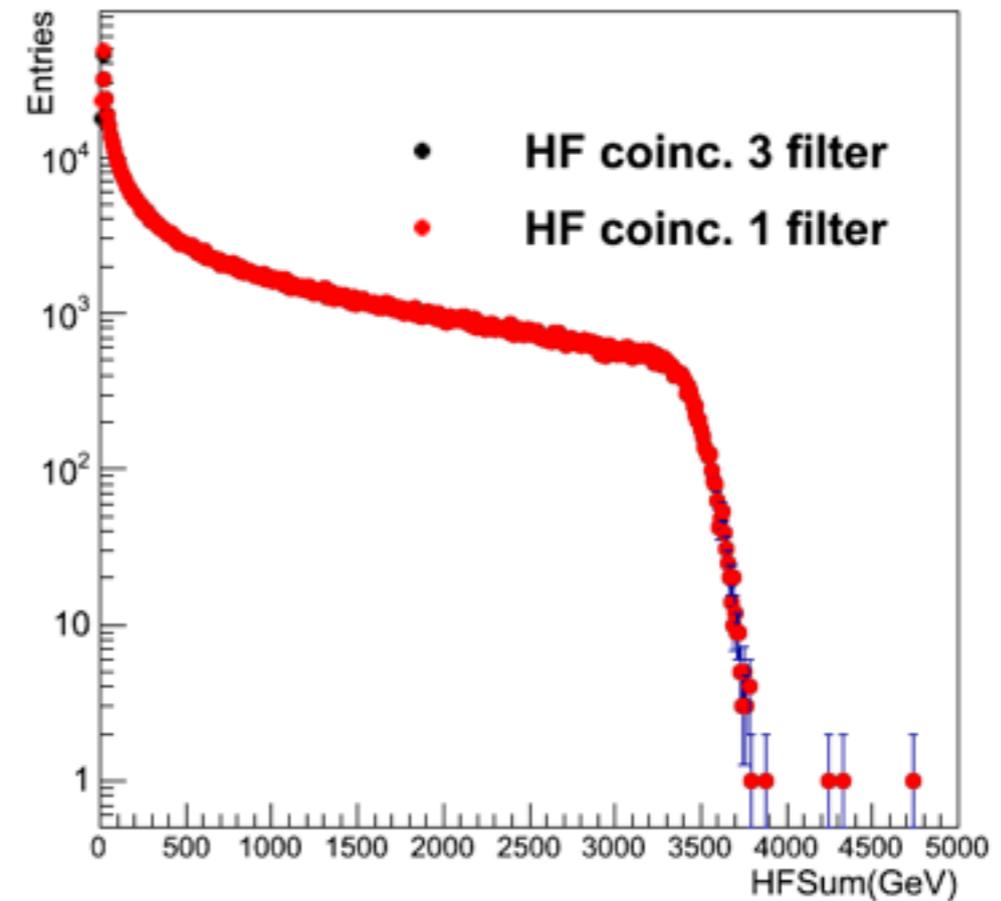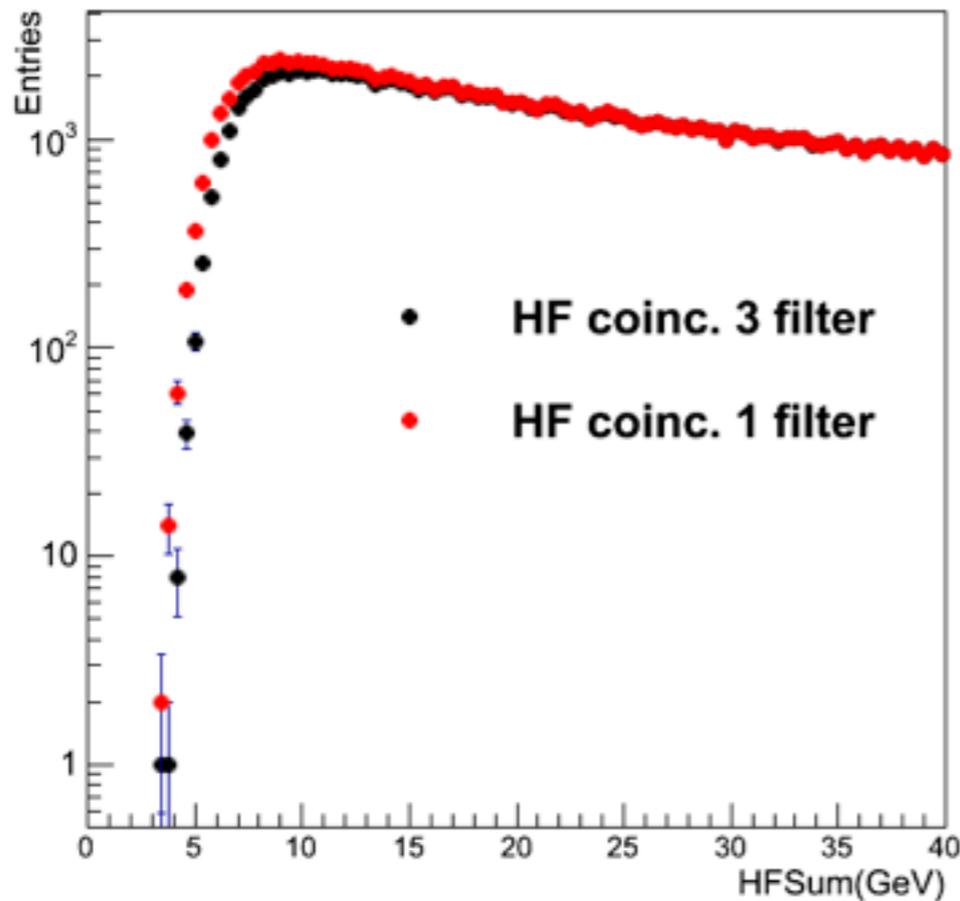
reference study

- Reference note : AN2010_365_v4

- Prerequisites for event Selection –

  - BSC coincidence beam halo rejection, PKAM rejection, valid vertex cut applied

- Compare the event distribution of 3 HF towers above 3 GeV, without HF requirement, 2 HF tower requirement

- Difference observed at very low HF energy bin
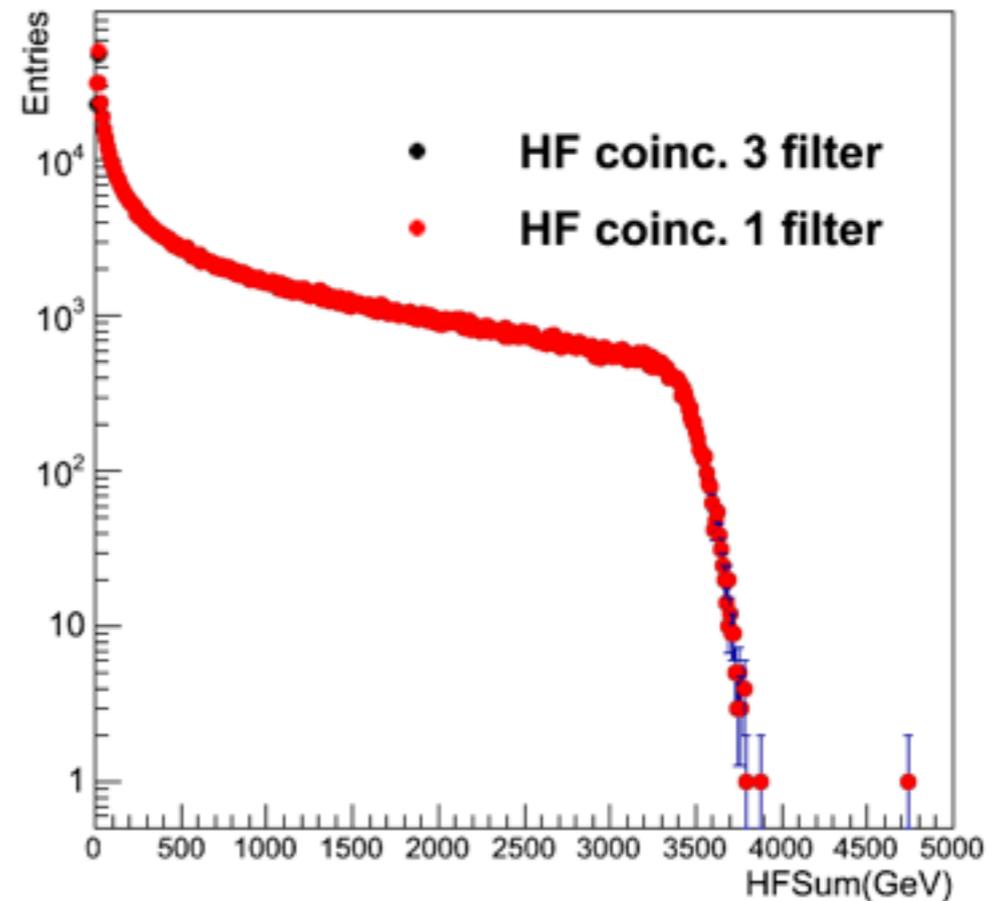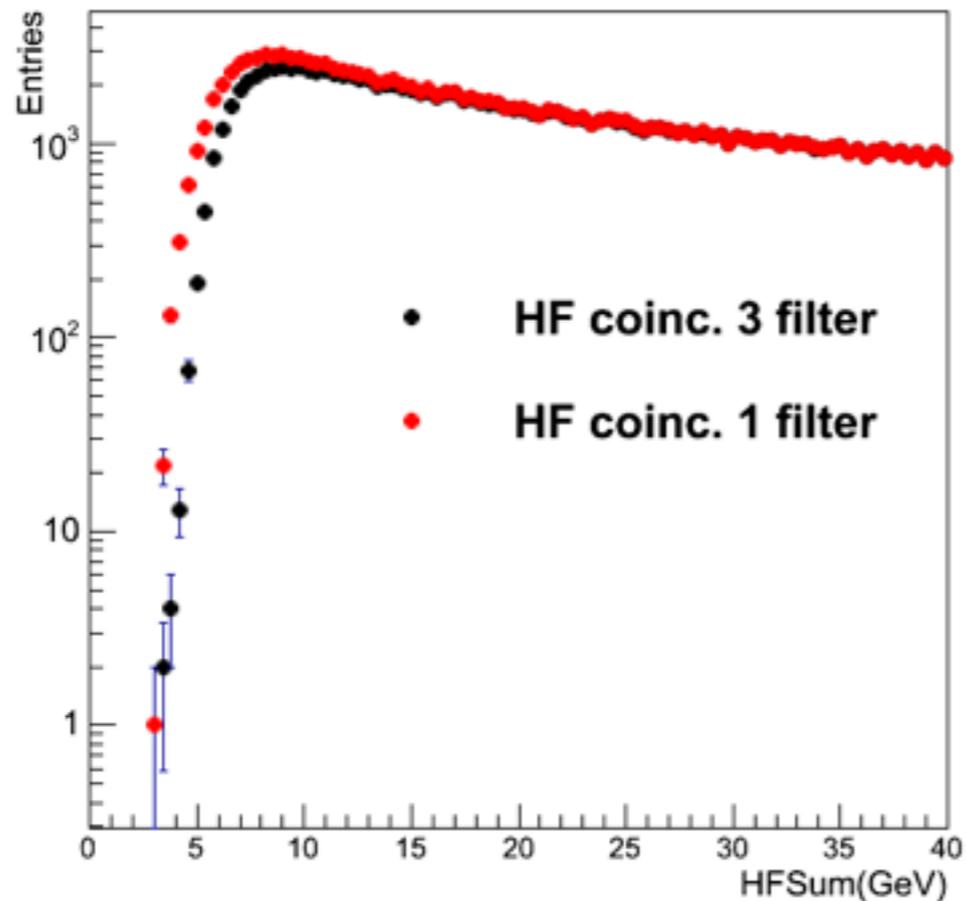
Minimum Bias Events

- BSC cut is always applied

- 3 HF towers cut result is slightly lower than 1HF towers cut
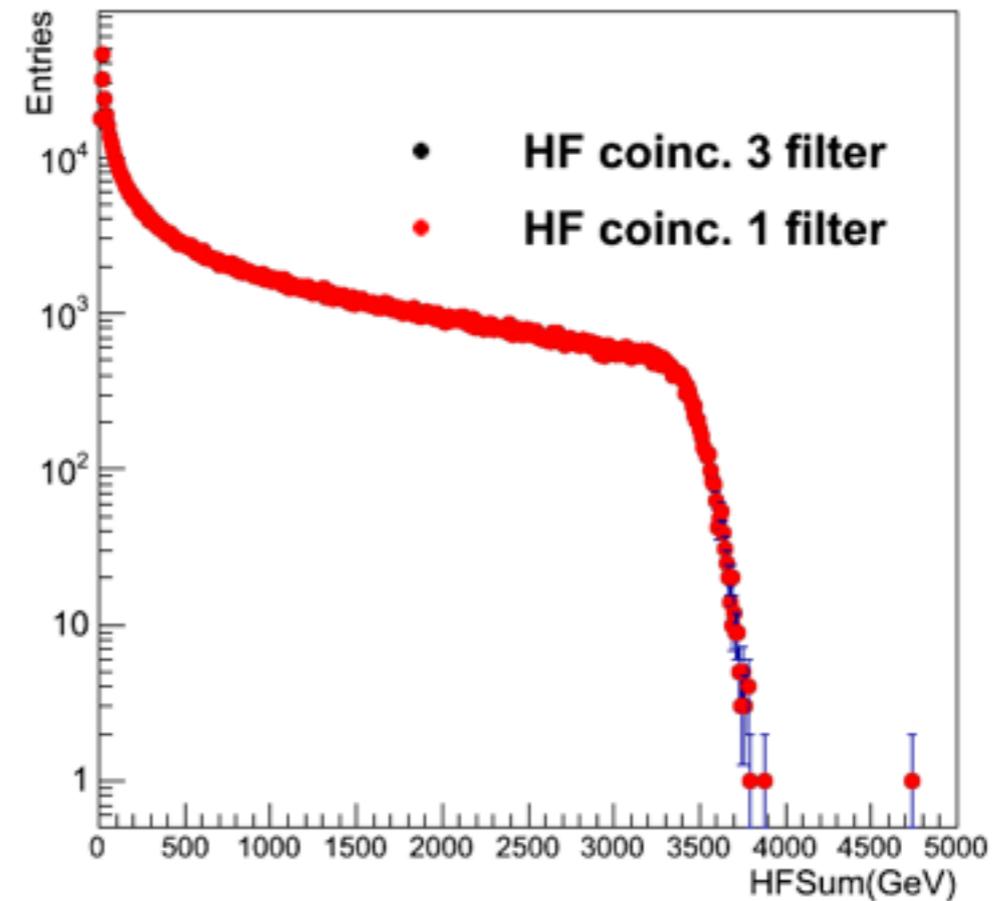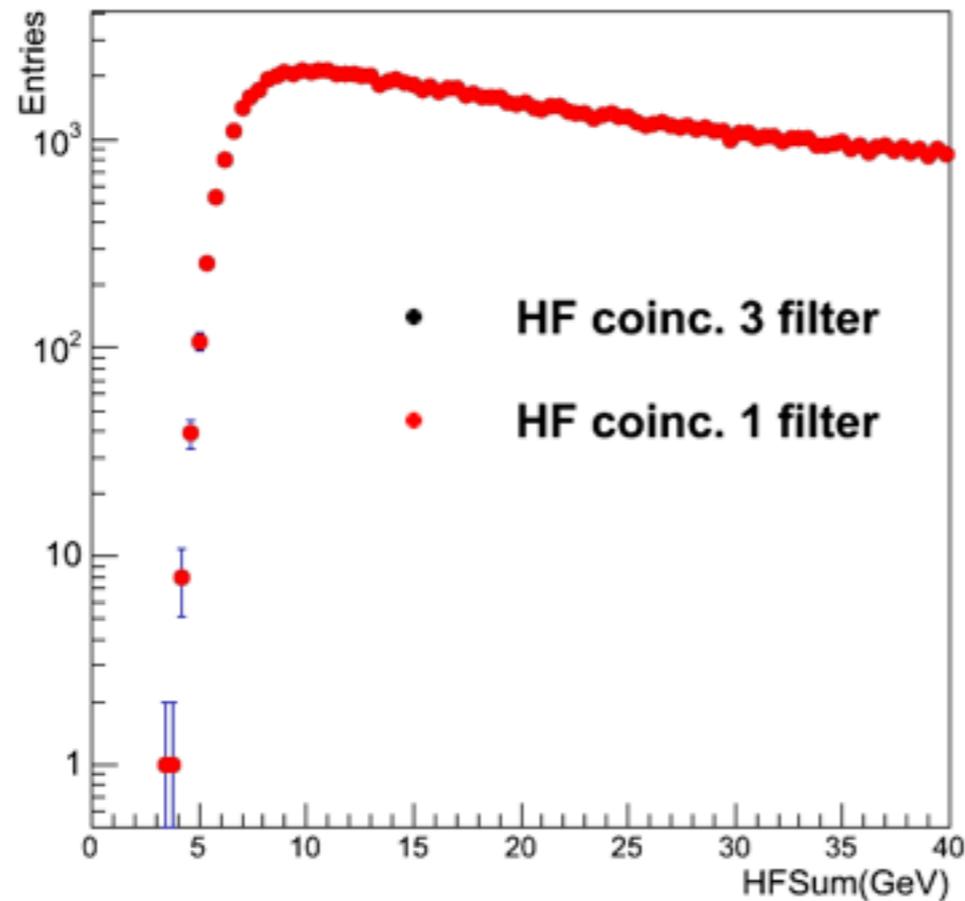
primary vertex filter

- primary vertex filter applied

- 3 HF towers cut result is slightly lower than 1HF towers cut
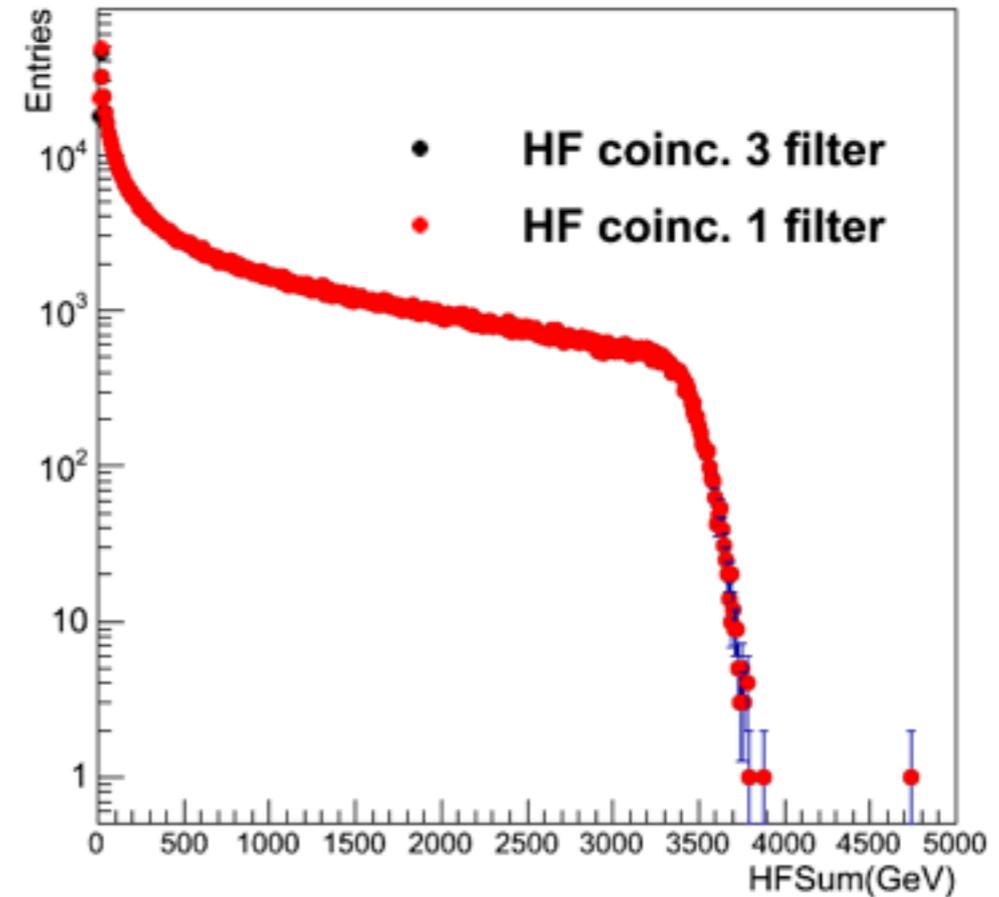
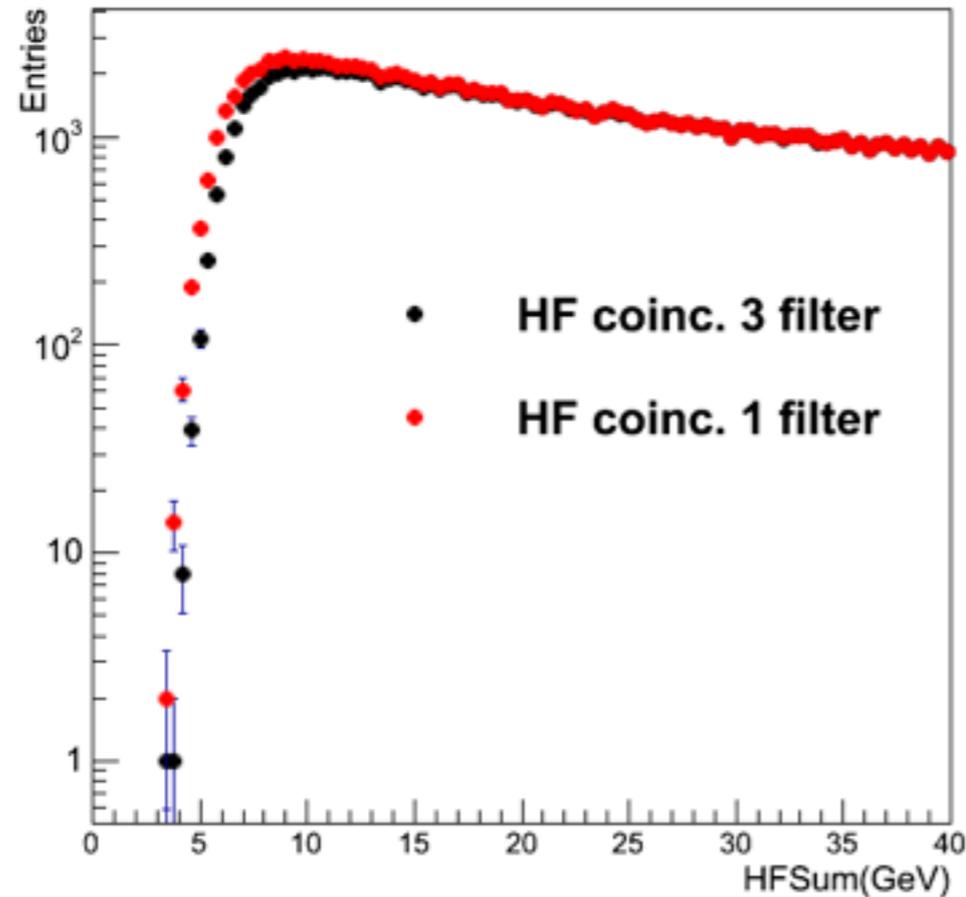# hlt pixel cluster shape filter

- hlt pixel cluster shape filter applied

- 3 HF towers cut result is slightly lower than 1HF towers cut
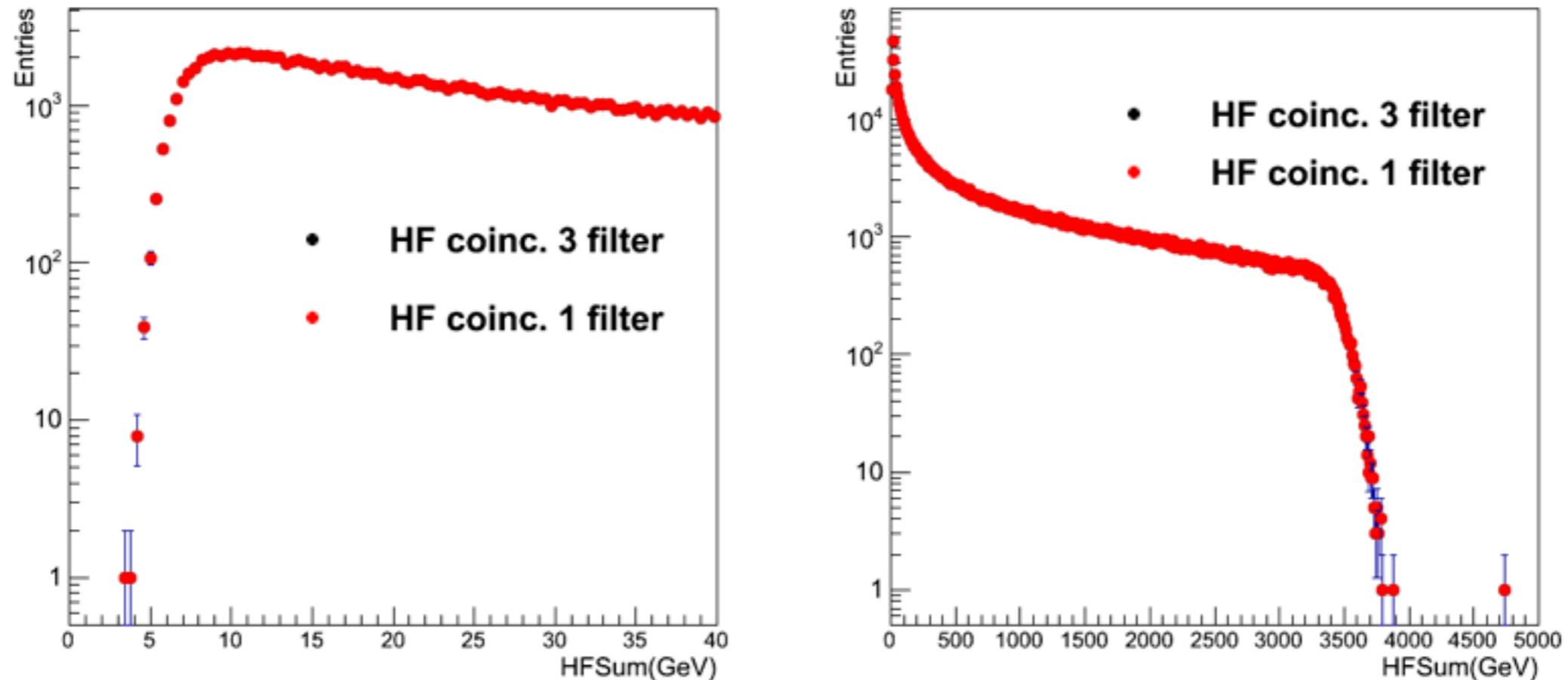
collision event selection

- collision event selection applied

- 2 kind of HF towers cut result is same

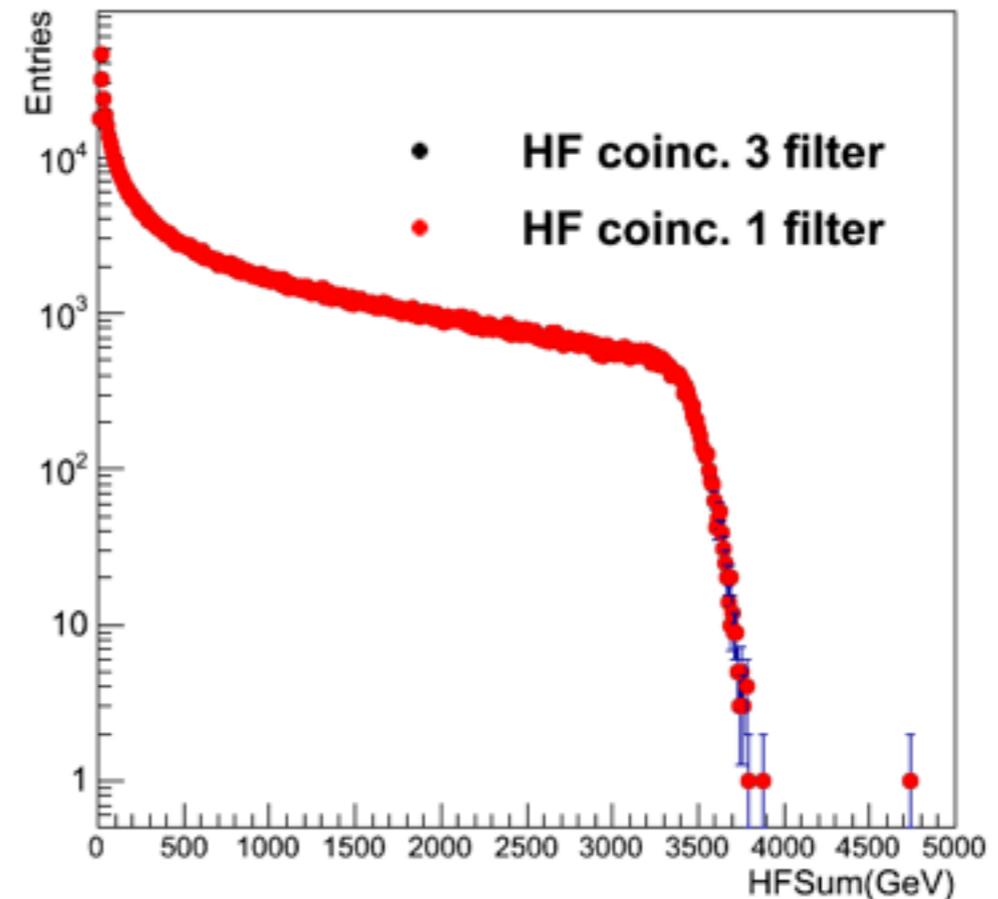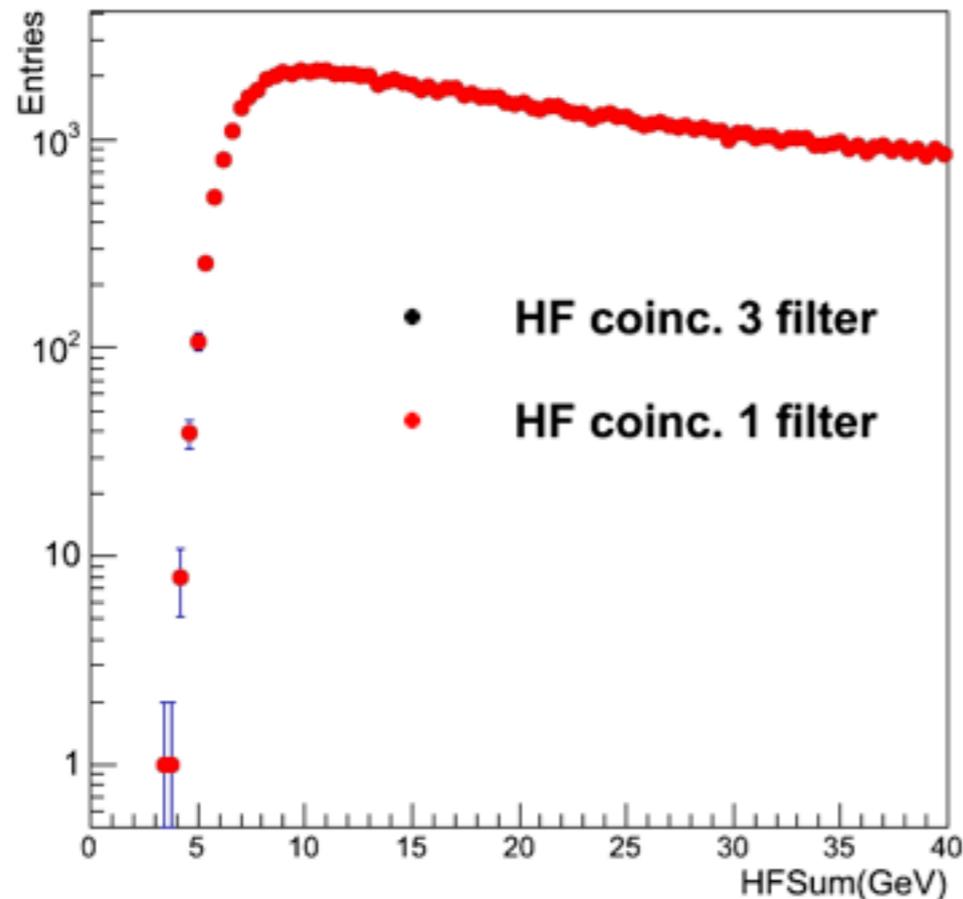# primary vertex filter && hlt pixel cluster shape filter

- primary vertex filter and hlt pixel cluster shape filter applied

- 3 HF towers cut result is slightly lower than 1HF towers cut

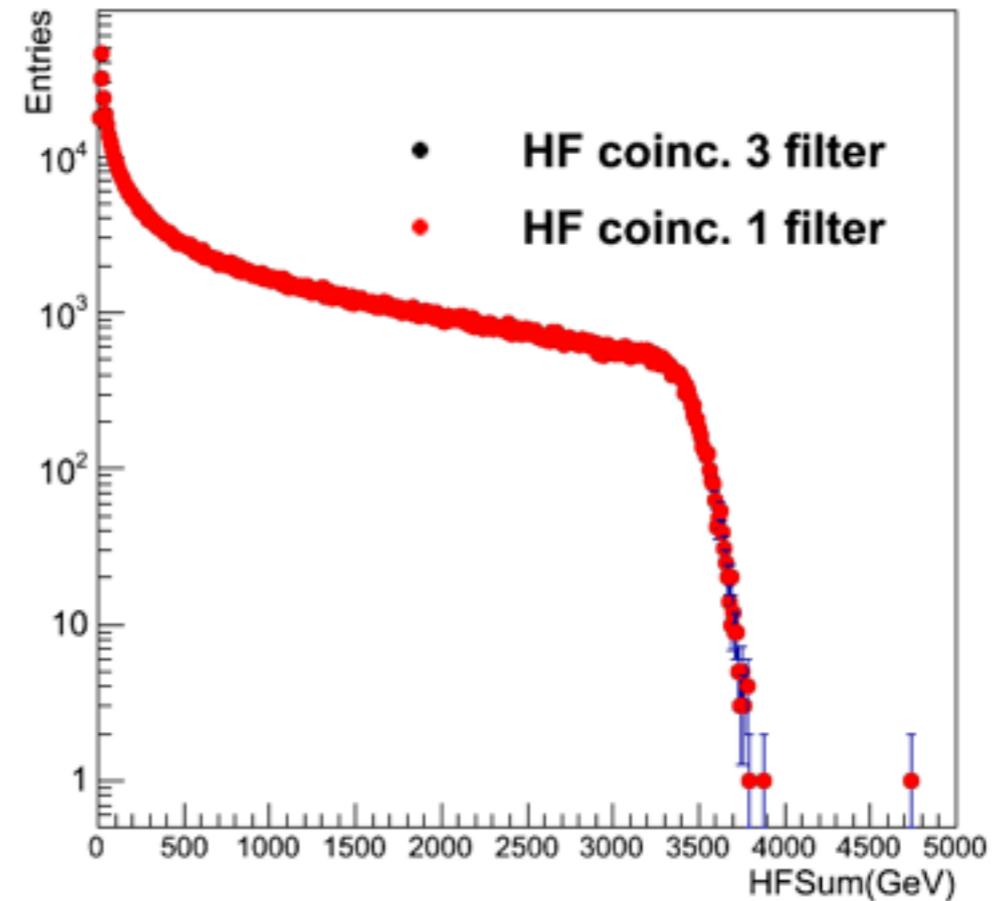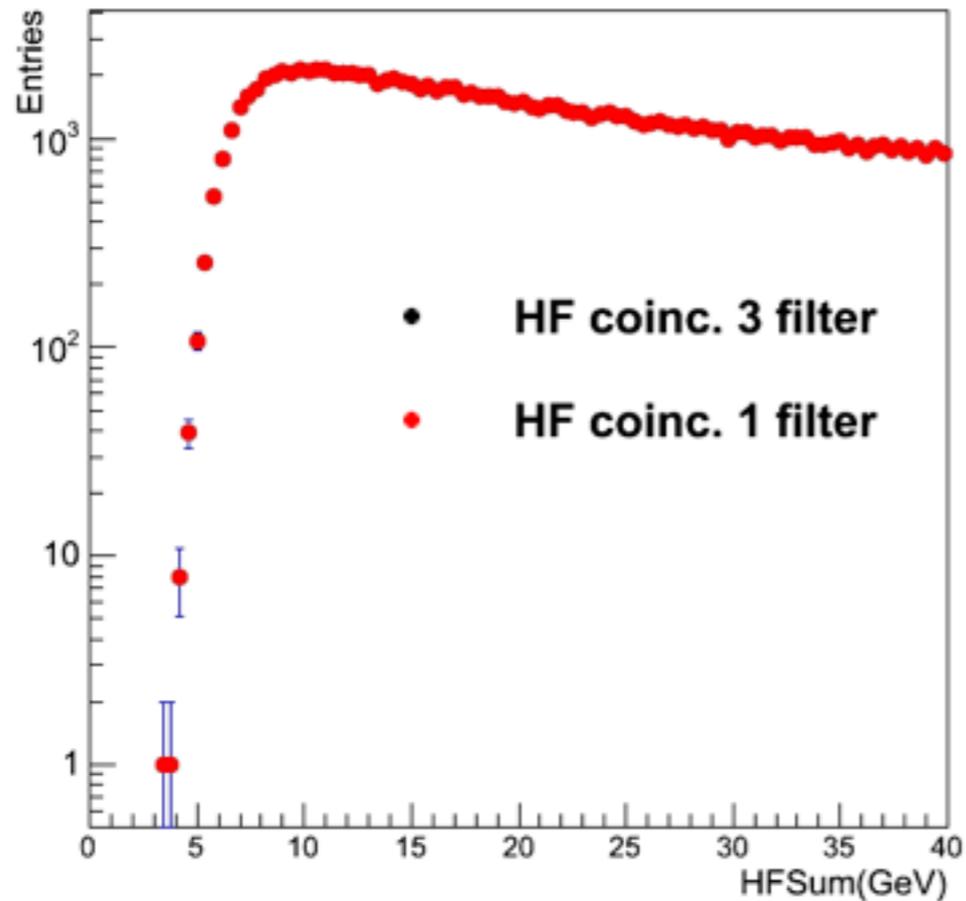# primary vertex filter && collision event selection

- primary vertex filter and collision event selection applied

- 2 kind of HF towers cut result is same

hlt pixel cluster shape filter && collision event selection

- hlt pixel cluster shape filter and collision event selection applied

- 2 kind of HF towers cut result is same

all cut

- primary vertex filter and hlt pixel cluster shape filter and collision event selection applied

- 2 kind of HF towers cut result is same

summary

- Collision variable studies practiced with Re-reco MinBias samples

- primary vertex filter, hlt pixel cluster shape filter, collision event selection applied

- The default Collision event selection rejects the UPC events

- next step: ZDC and Ntrack will be tried

back up