

Use $Z/\gamma^* \rightarrow qq + \text{ISR}$ for calibration

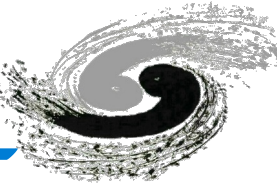
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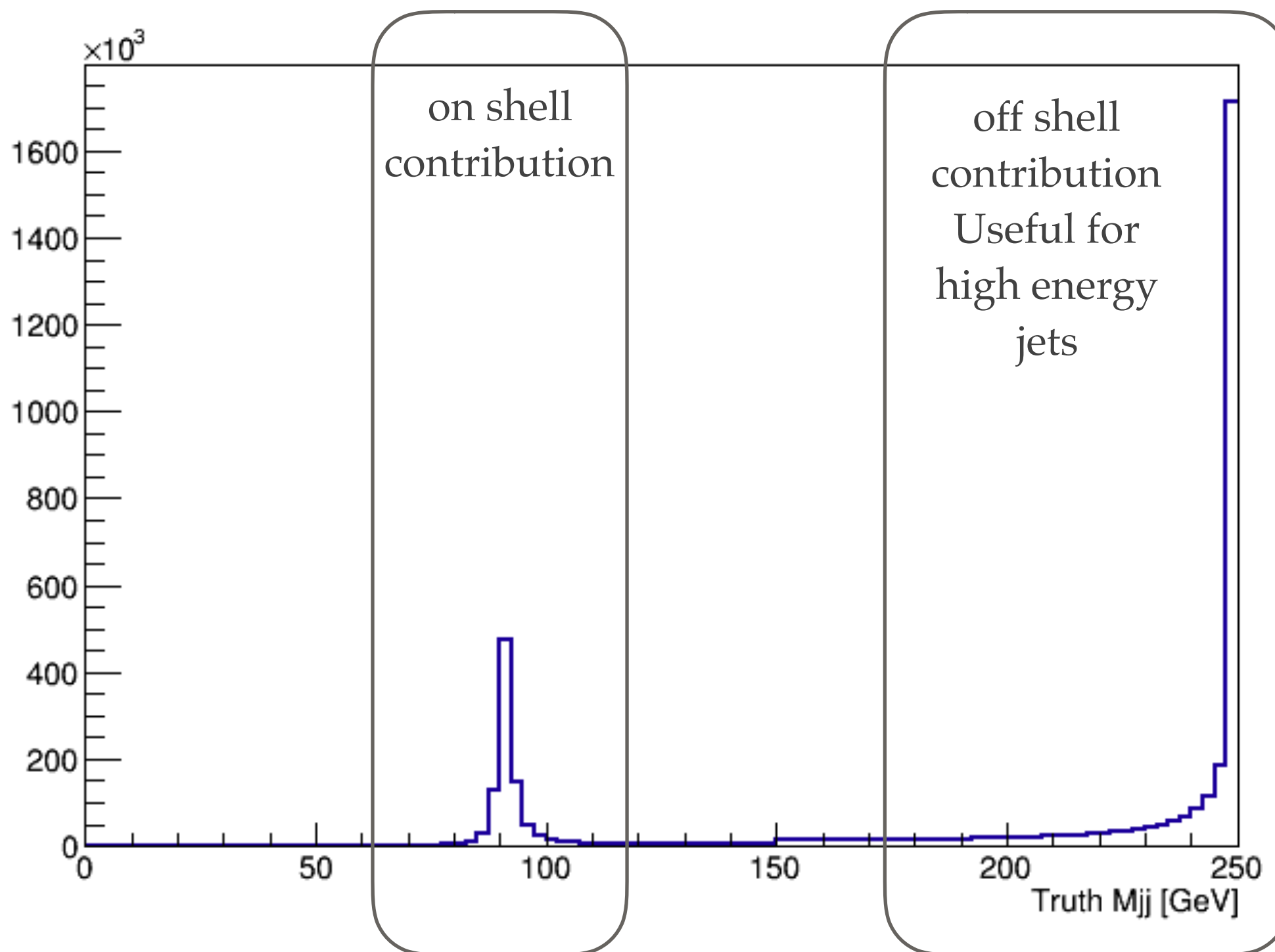
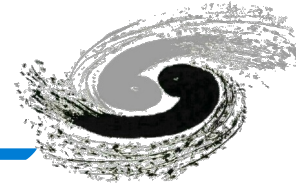


- ❖ Calibrate the Jet with higher energy with 250 GeV $Z/\gamma^* \rightarrow qq$ events
- ❖ Reco Jet is matched to truth Jet with $\text{mindR} < 0.1$, jet is reconstructed with ee-kt algorithm
- ❖ Use double-sided CB + Gaussian as fit function
- ❖ Width is combined as

$$\sigma^2 = (\sigma_{\text{DSCB}} * f)^2 + (\sigma_{\text{GS}} * (1 - f))^2$$



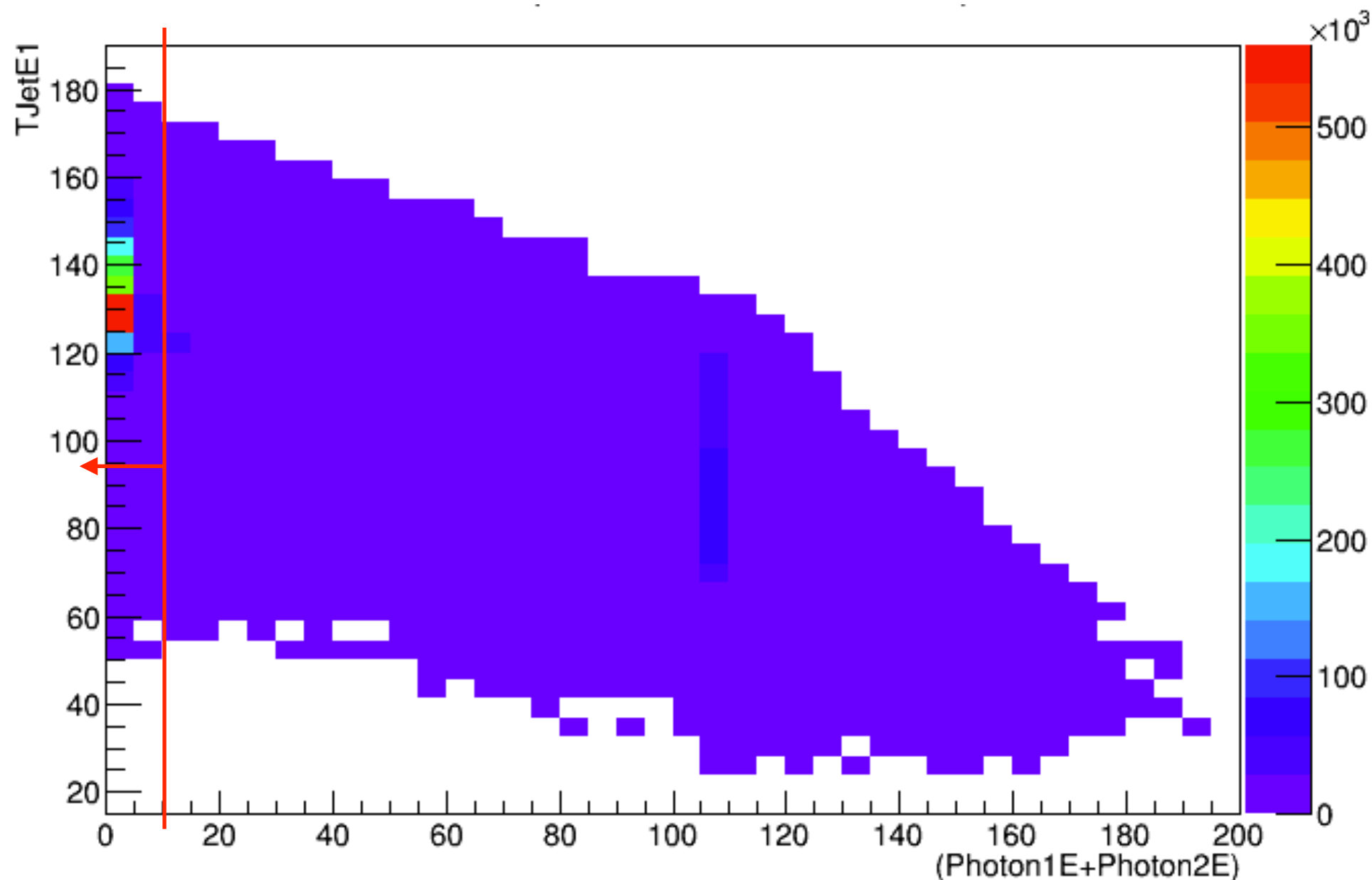
Event categories



Z+gamma events is useful for higher pt jet calibration

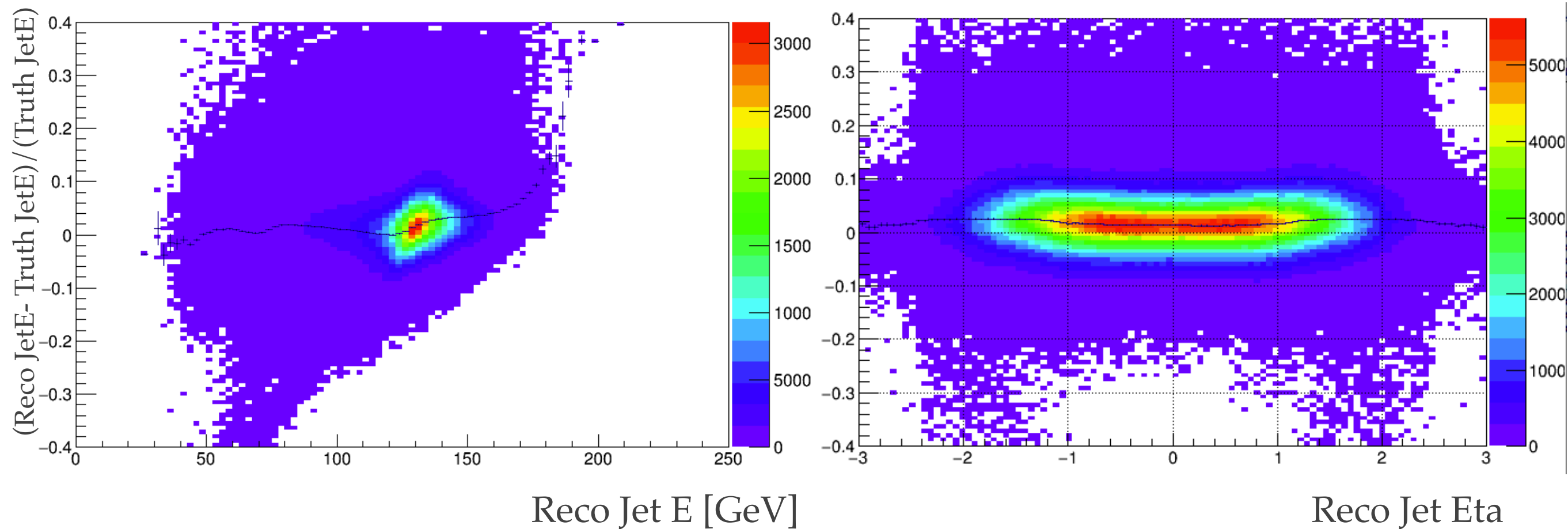
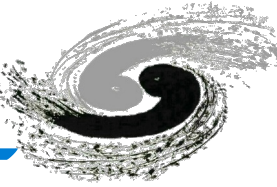


Jet Energy vs Photon Energy



In order to minimise the ISR photon contribution,
requiring total truth photon energy < 10 GeV

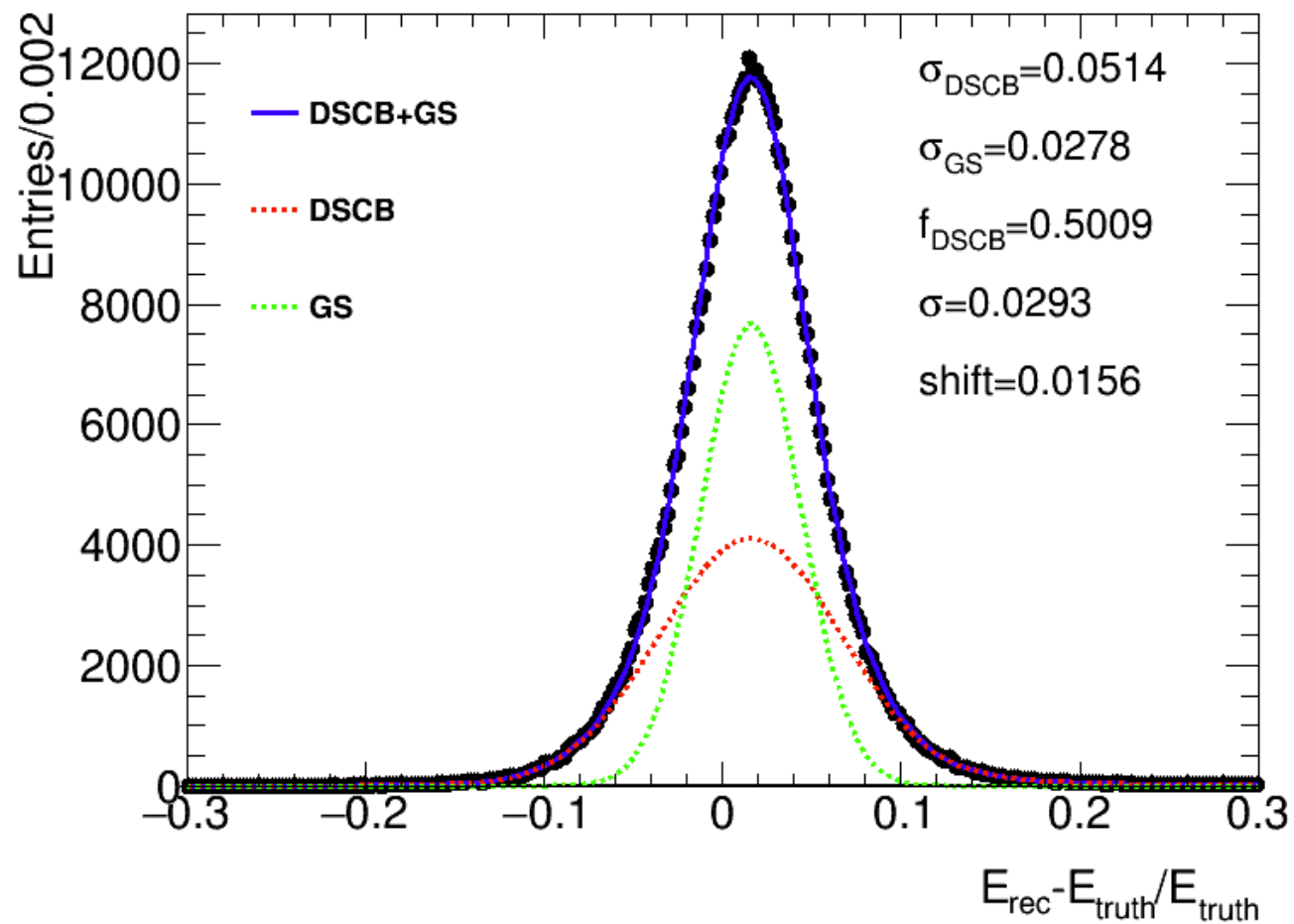
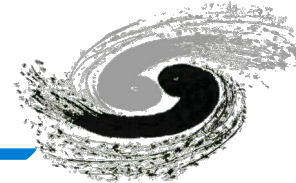
Check the Jet kinematic distributions



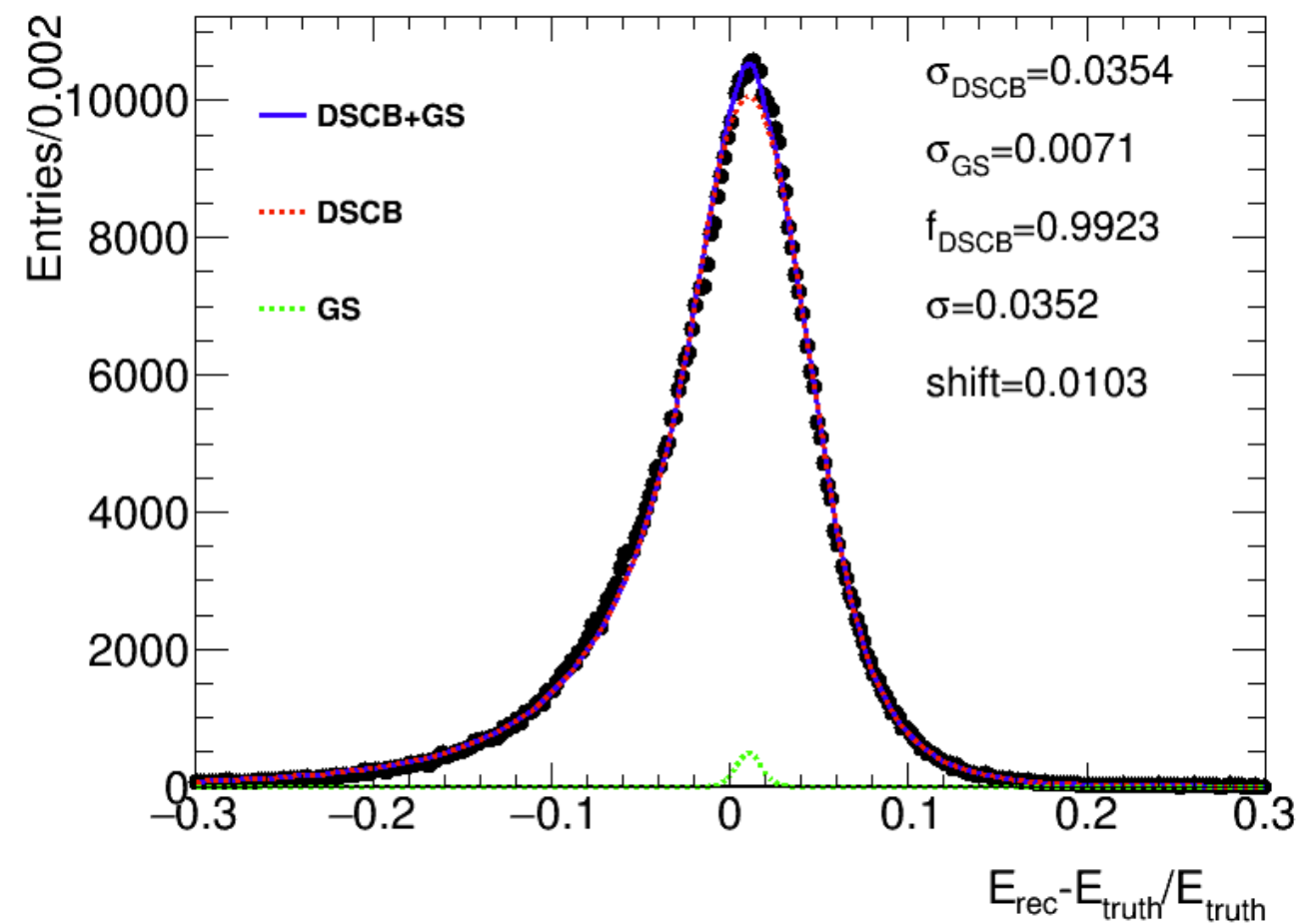
Calibrate Jet Energy inclusively and with Eta bin



uds-jets (all inclusive)



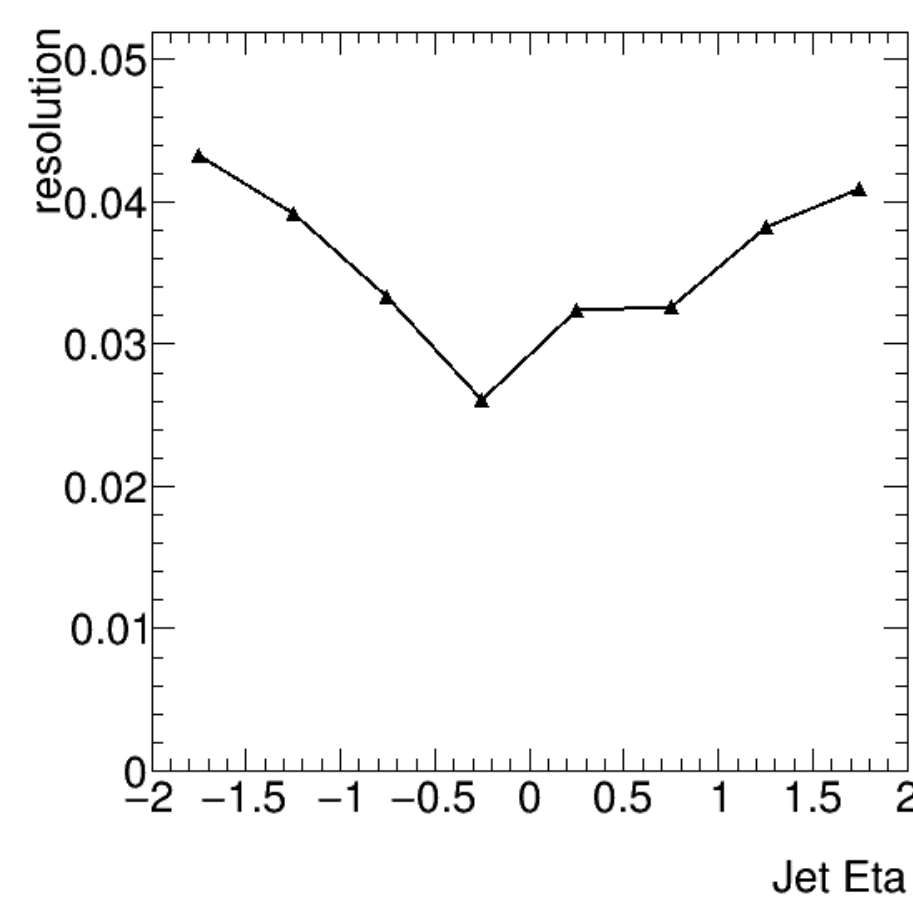
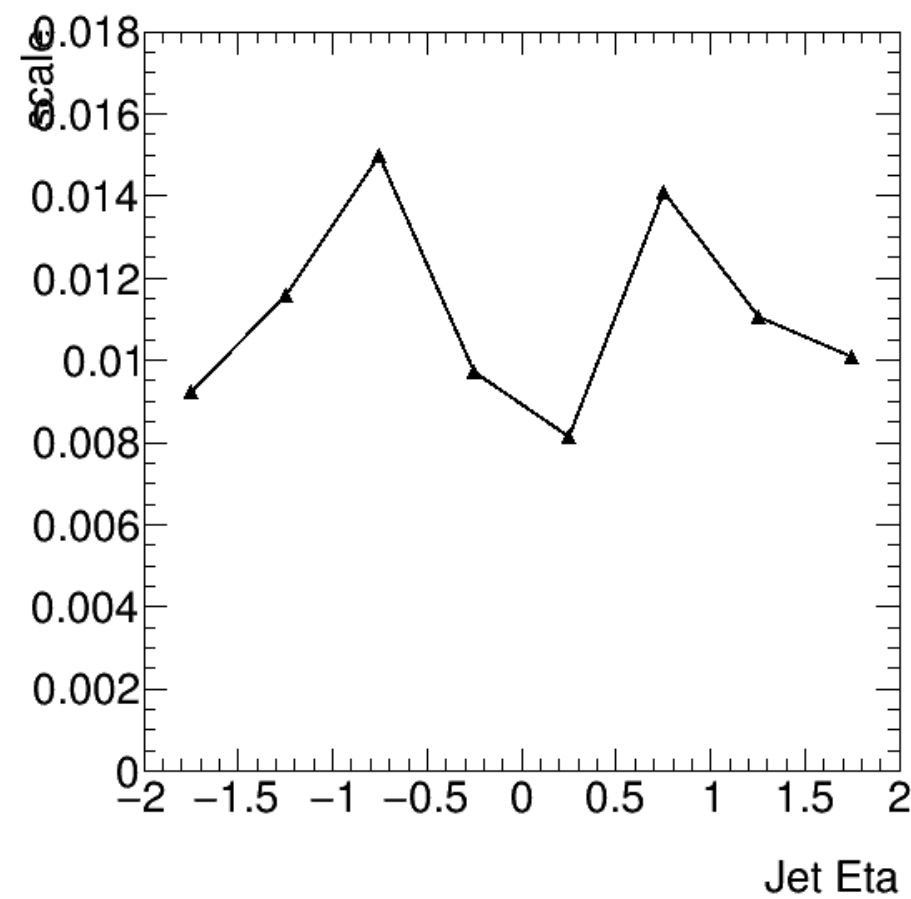
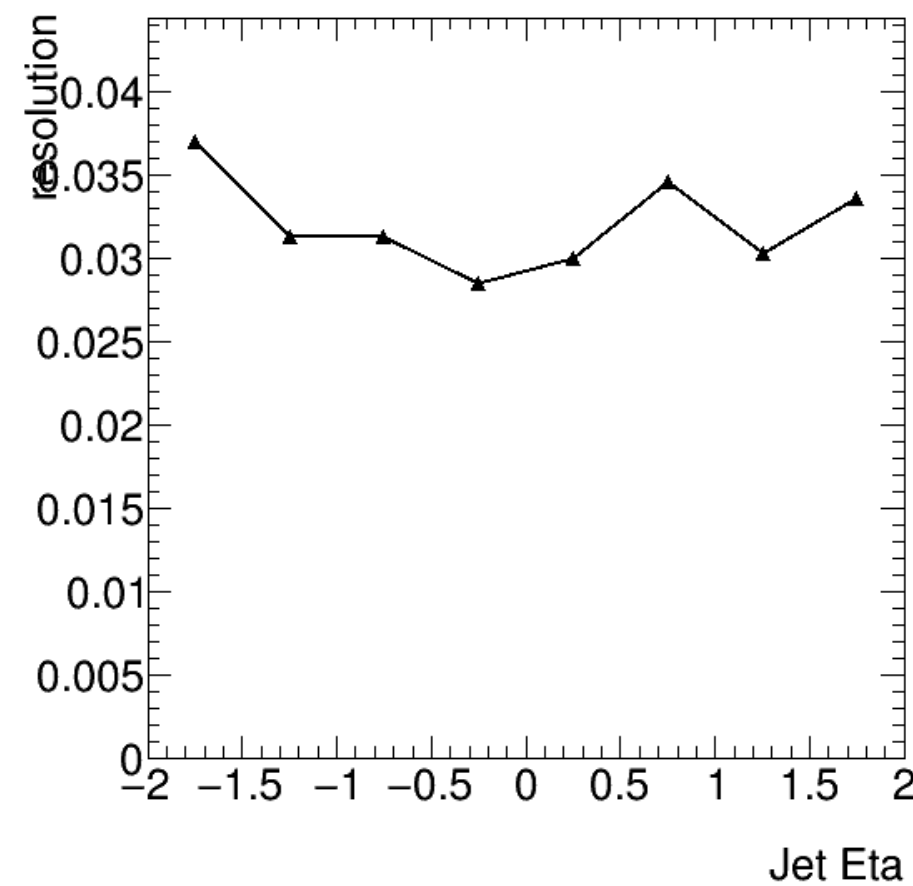
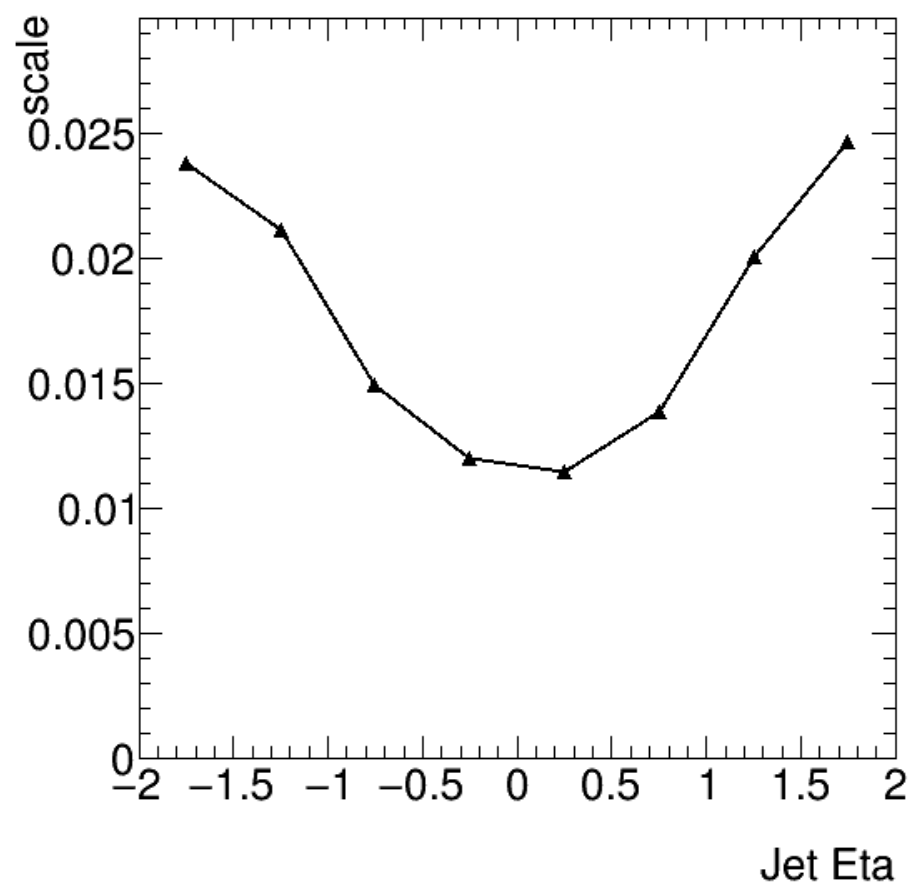
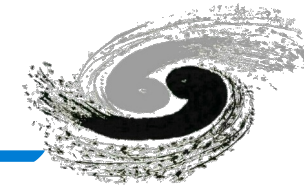
3% energy scale resolution with scale 1.015

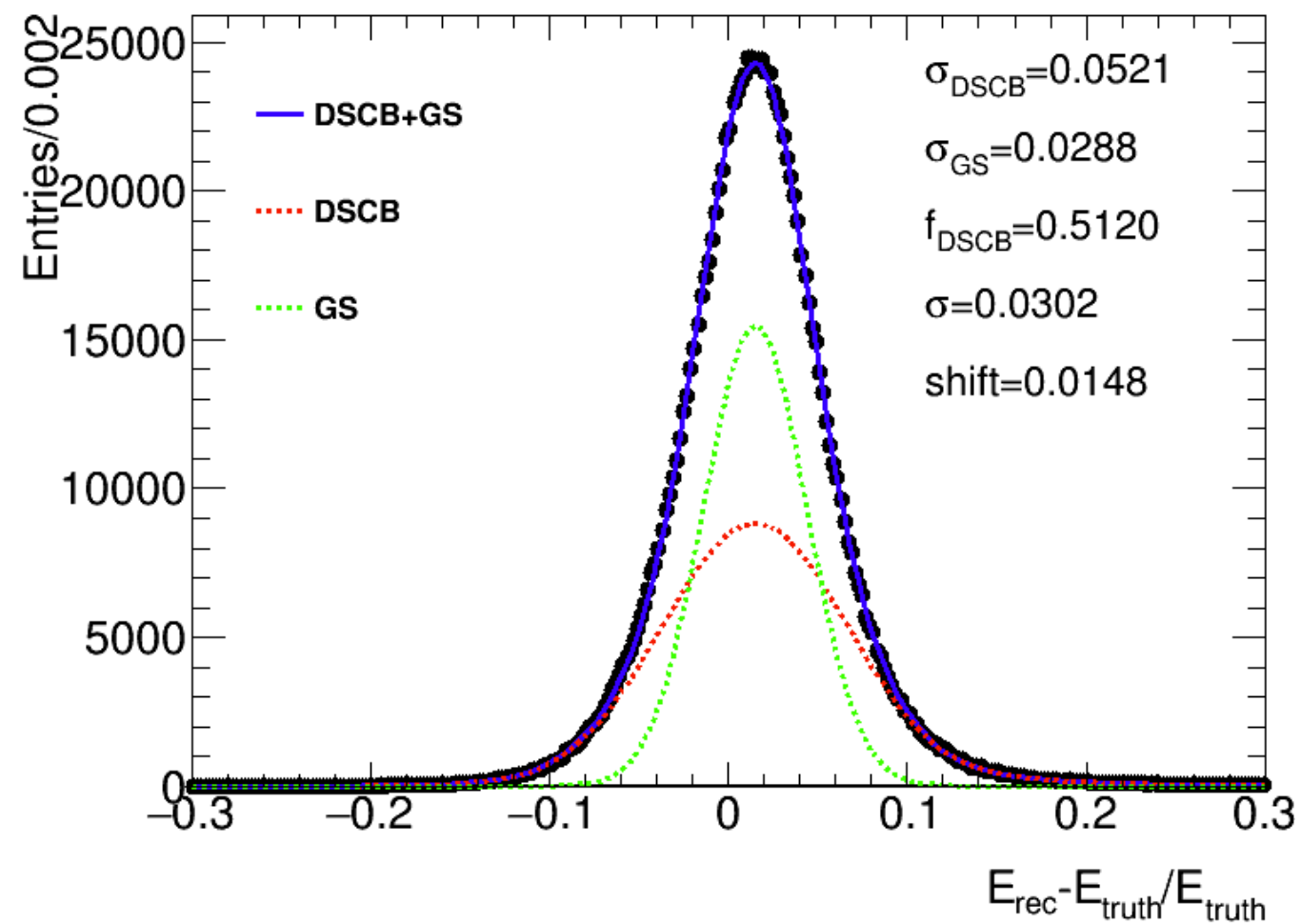
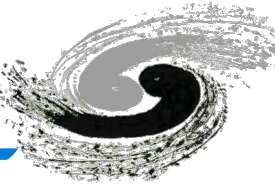


3.5% energy scale resolution with scale 0.01

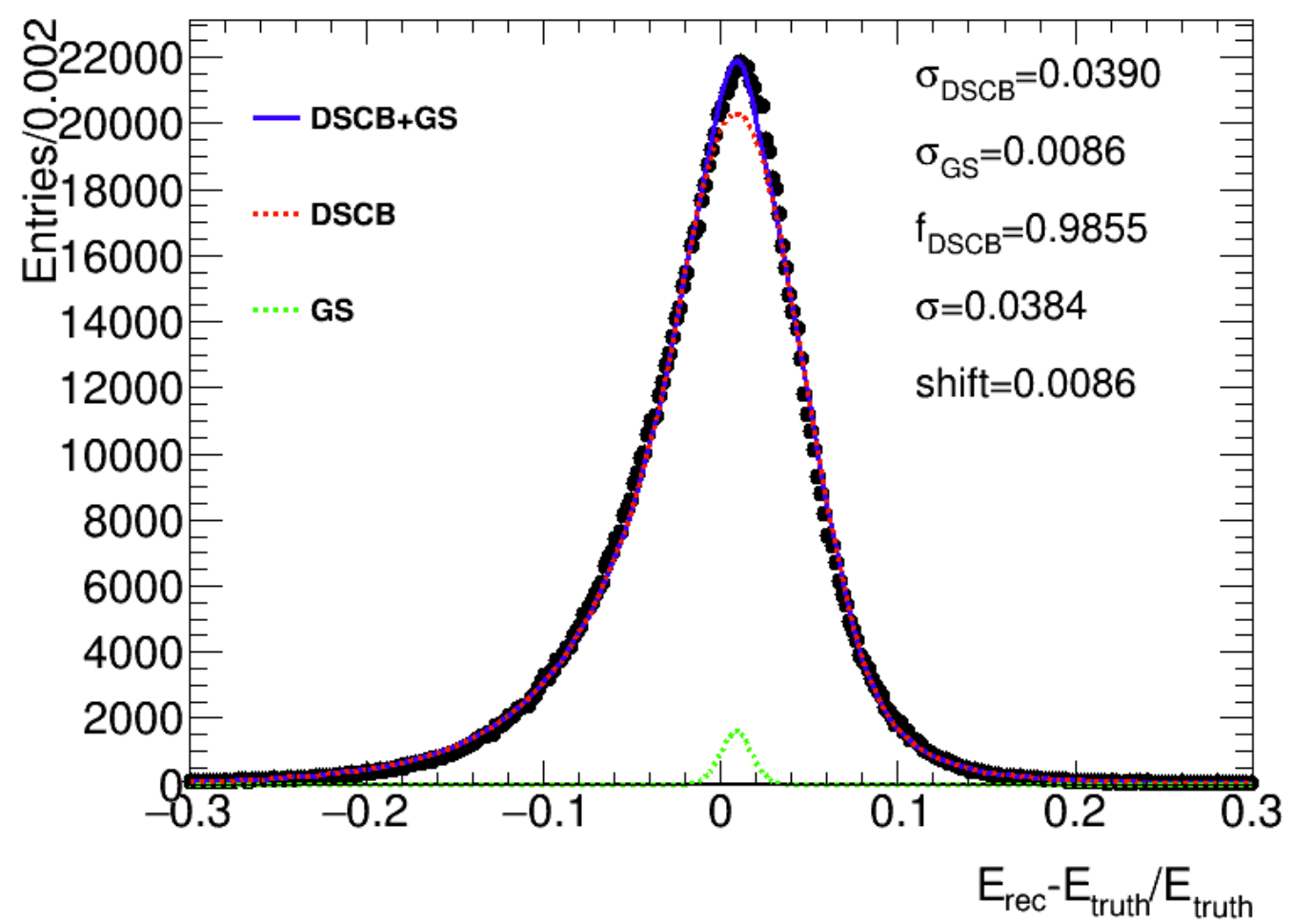


Binned in Eta





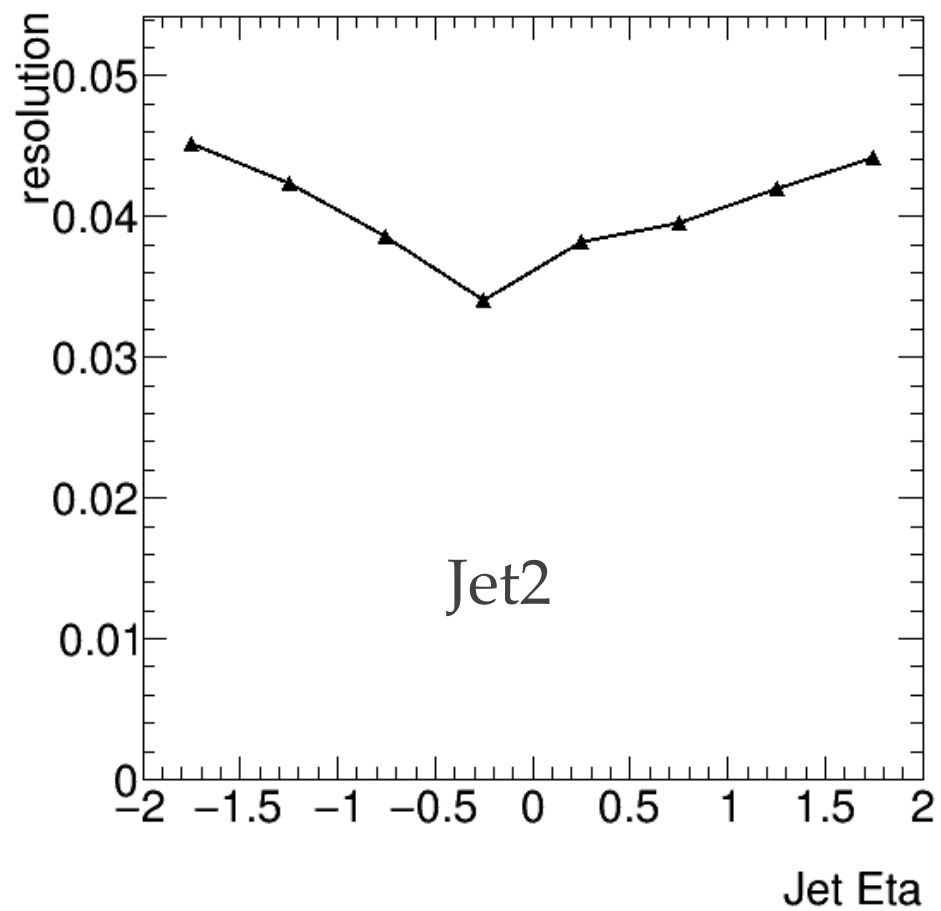
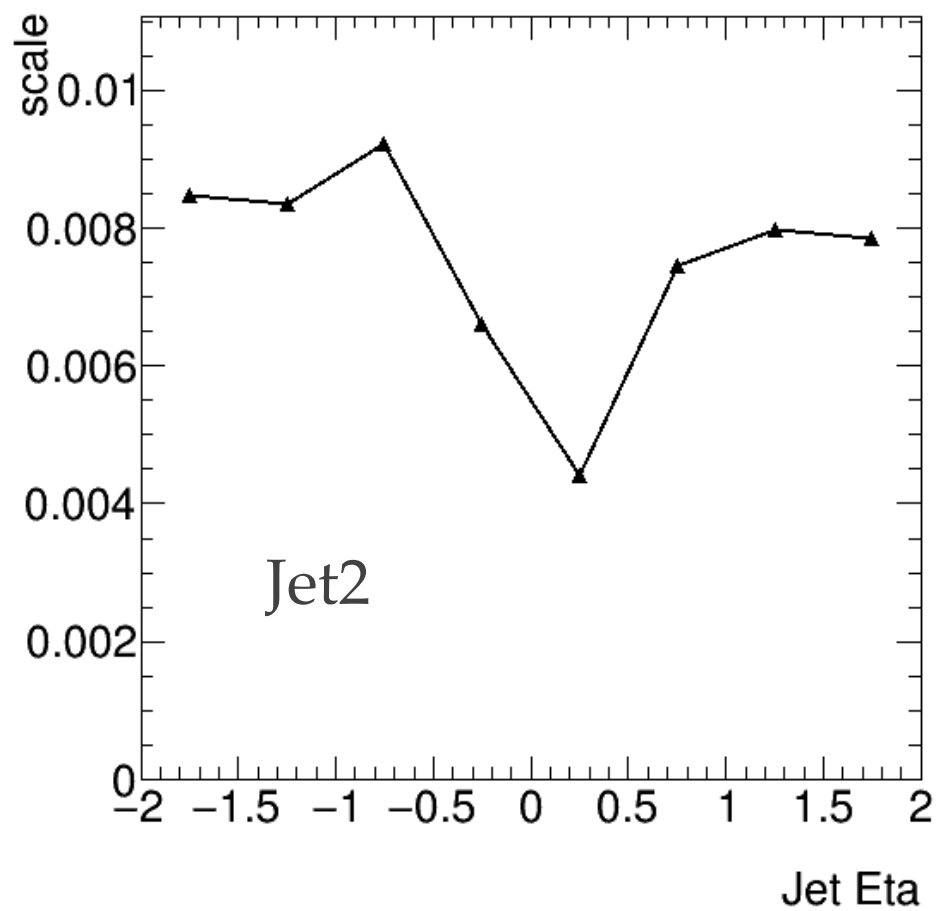
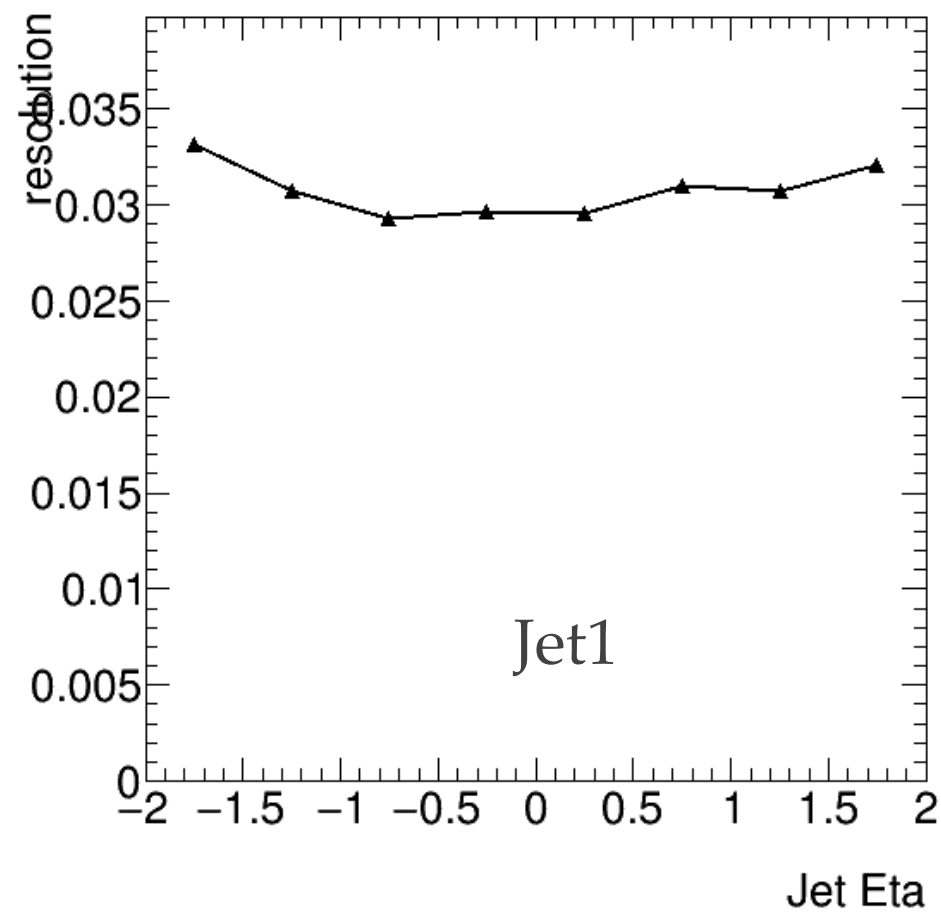
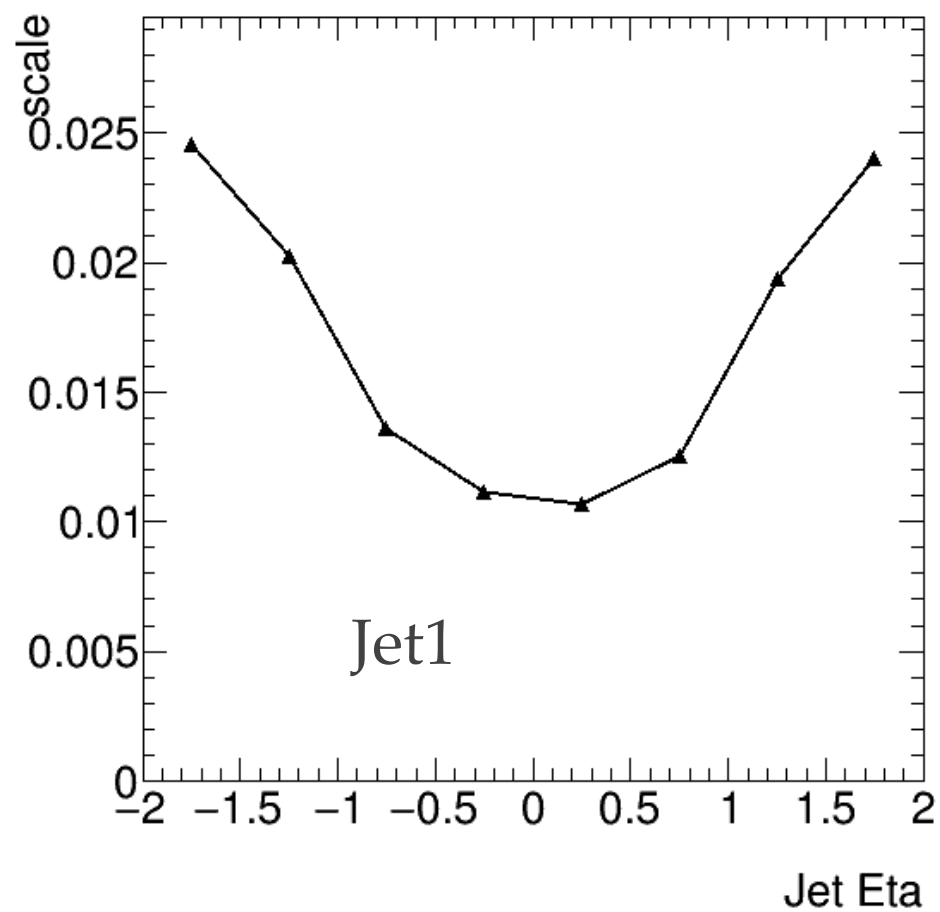
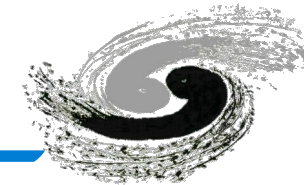
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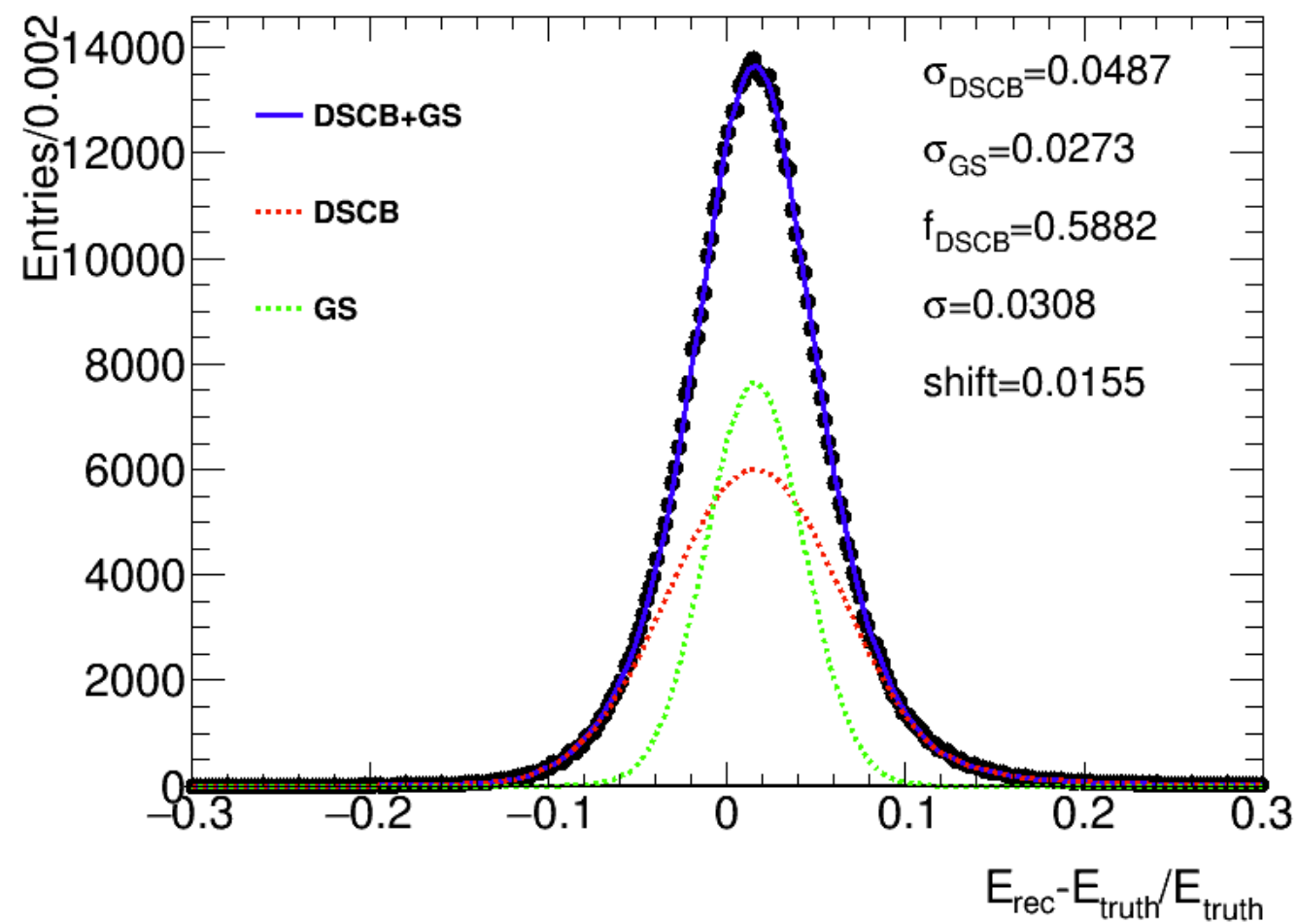
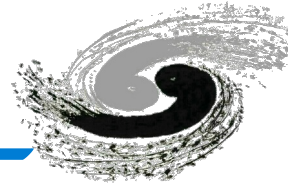


3.8% energy scale resolution with scale 0.009

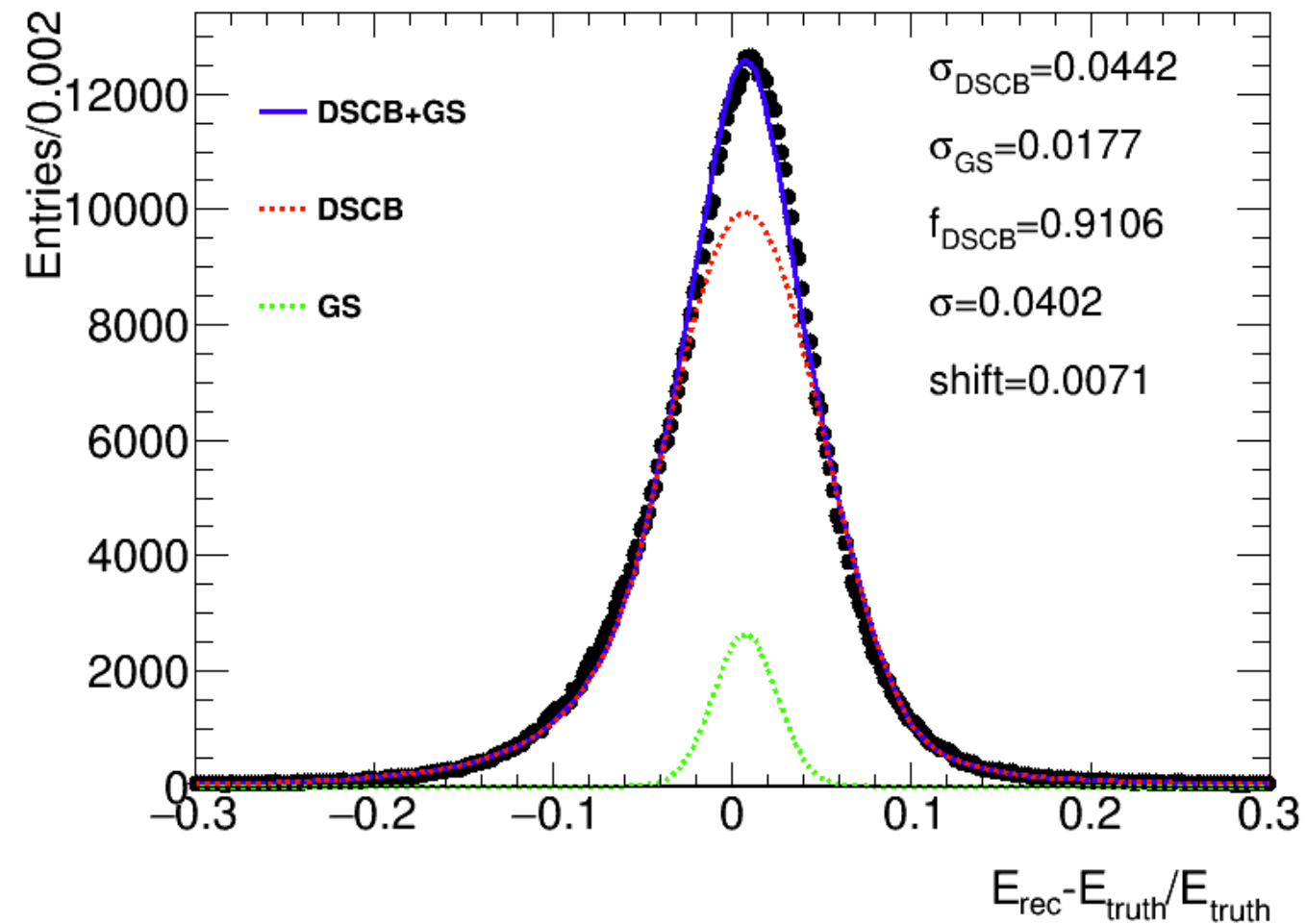


Binned in Eta





3% energy scale resolution with scale 0.015



4% energy scale resolution with scale 0.007



Binned in Eta

