sPHENIX HCAL

Abhisek Sen
Iowa State University

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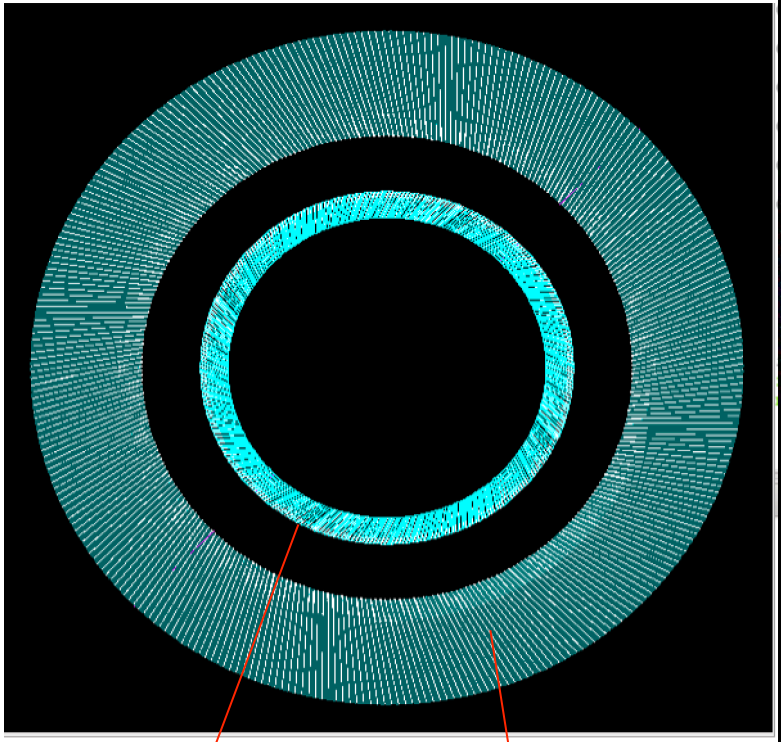
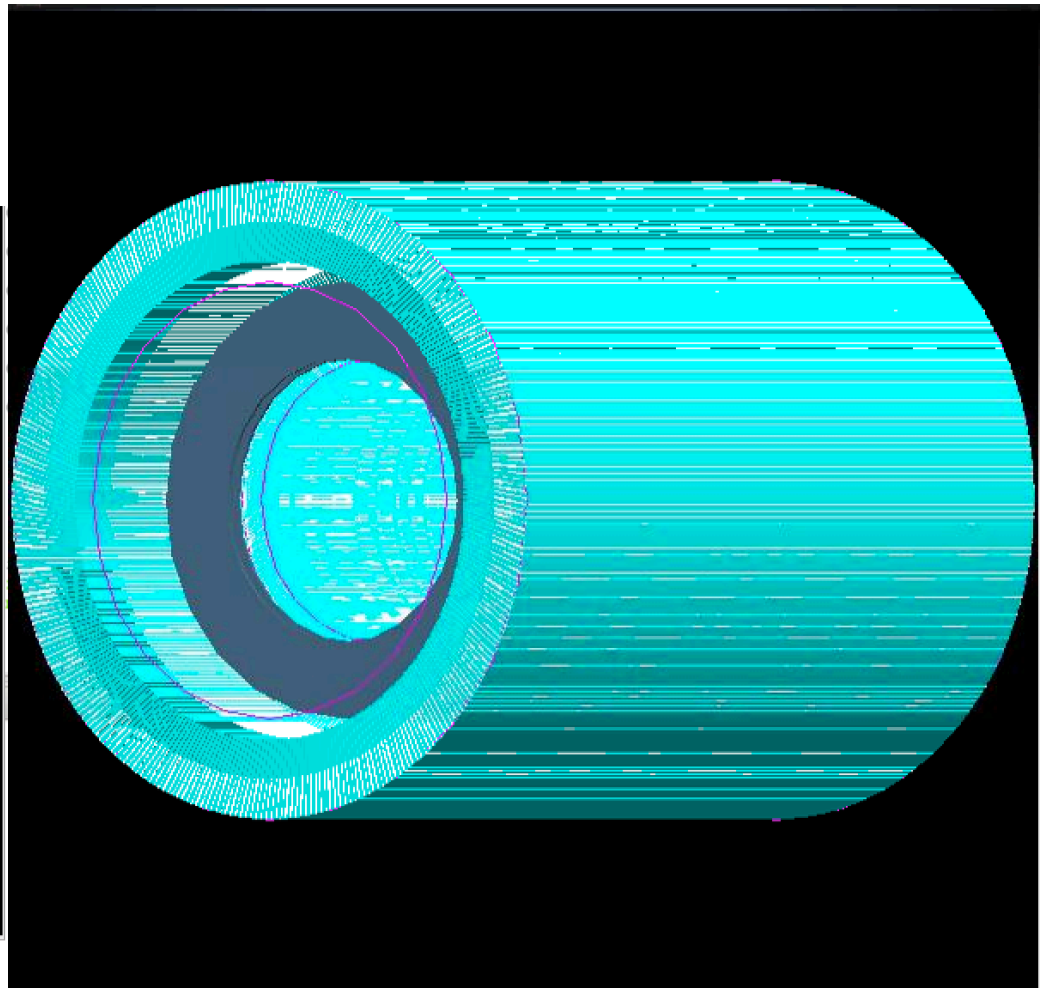
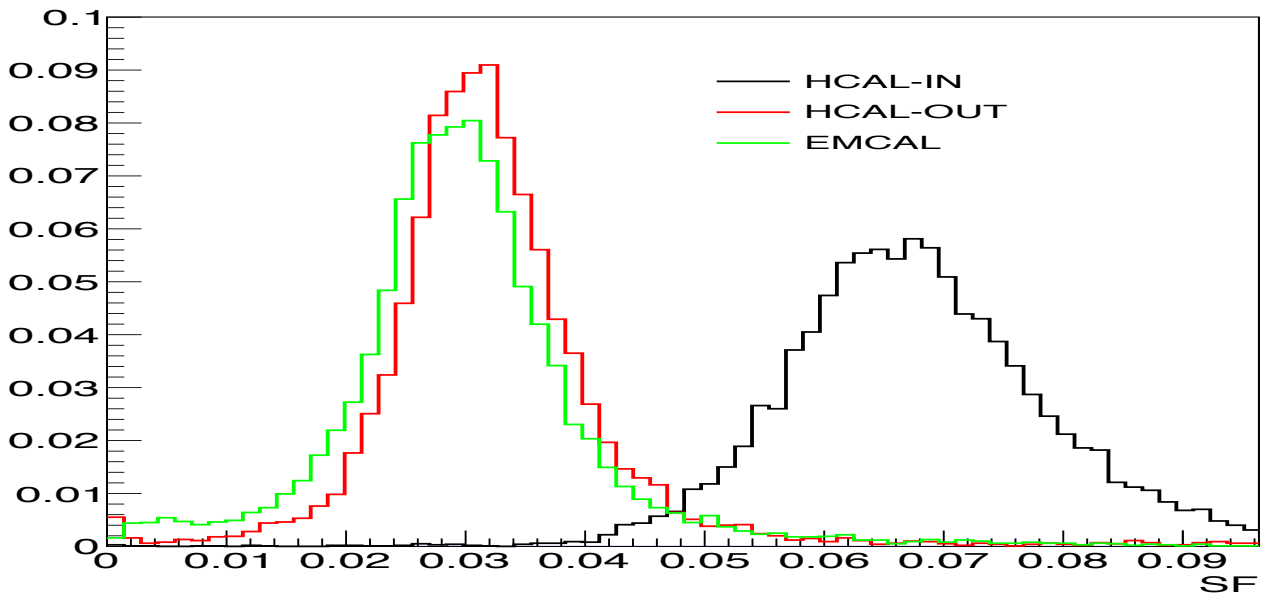




Inner HCAL

Outer HCAL

Sampling fraction (from muons)



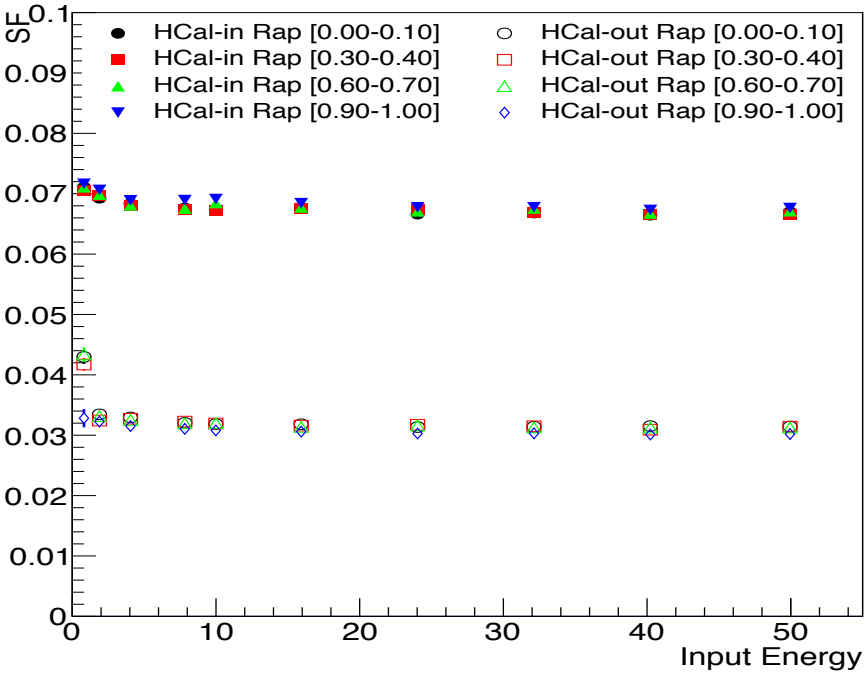
$$f^{S}_{emc} = \frac{\sum_{scint} light_yield()}{\sum_{scint} edep() + \sum_{absorber} edep() + \sum_{emcelectronics} edep()}$$

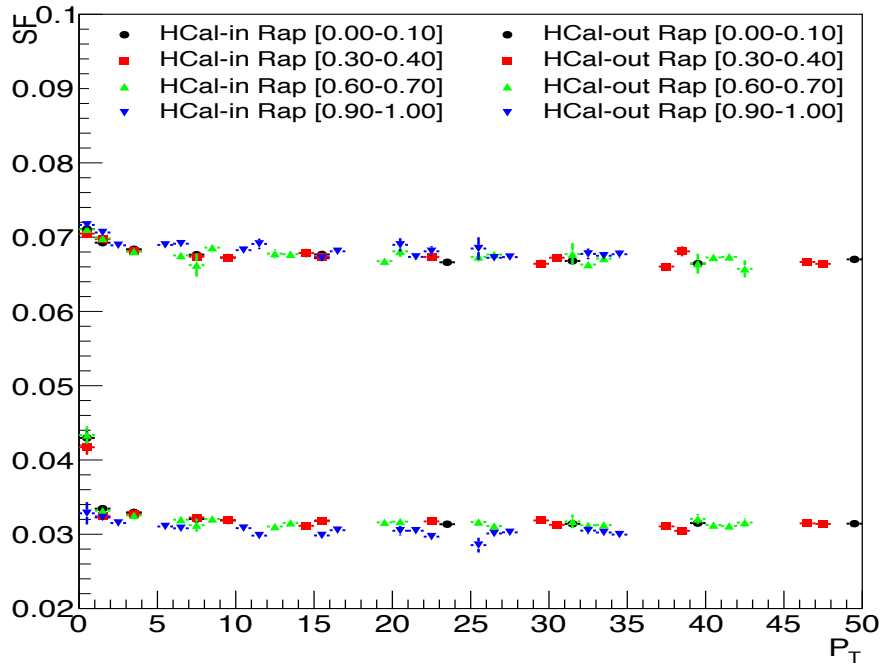
$$f^{S}_{HC_in} = \frac{\sum_{scint} light_yield()}{\sum_{scint} edep() + \sum_{absorber} edep() + \sum_{spt} edep()}$$

$$f^{S}_{HC_out} = \frac{\sum_{scint} light_yield()}{\sum_{scint} edep() + \sum_{absorber} edep()}$$

Using files Chris generated : /gpfs02/phenix/prod/sPHENIX/sunyrefnewinnerhcal

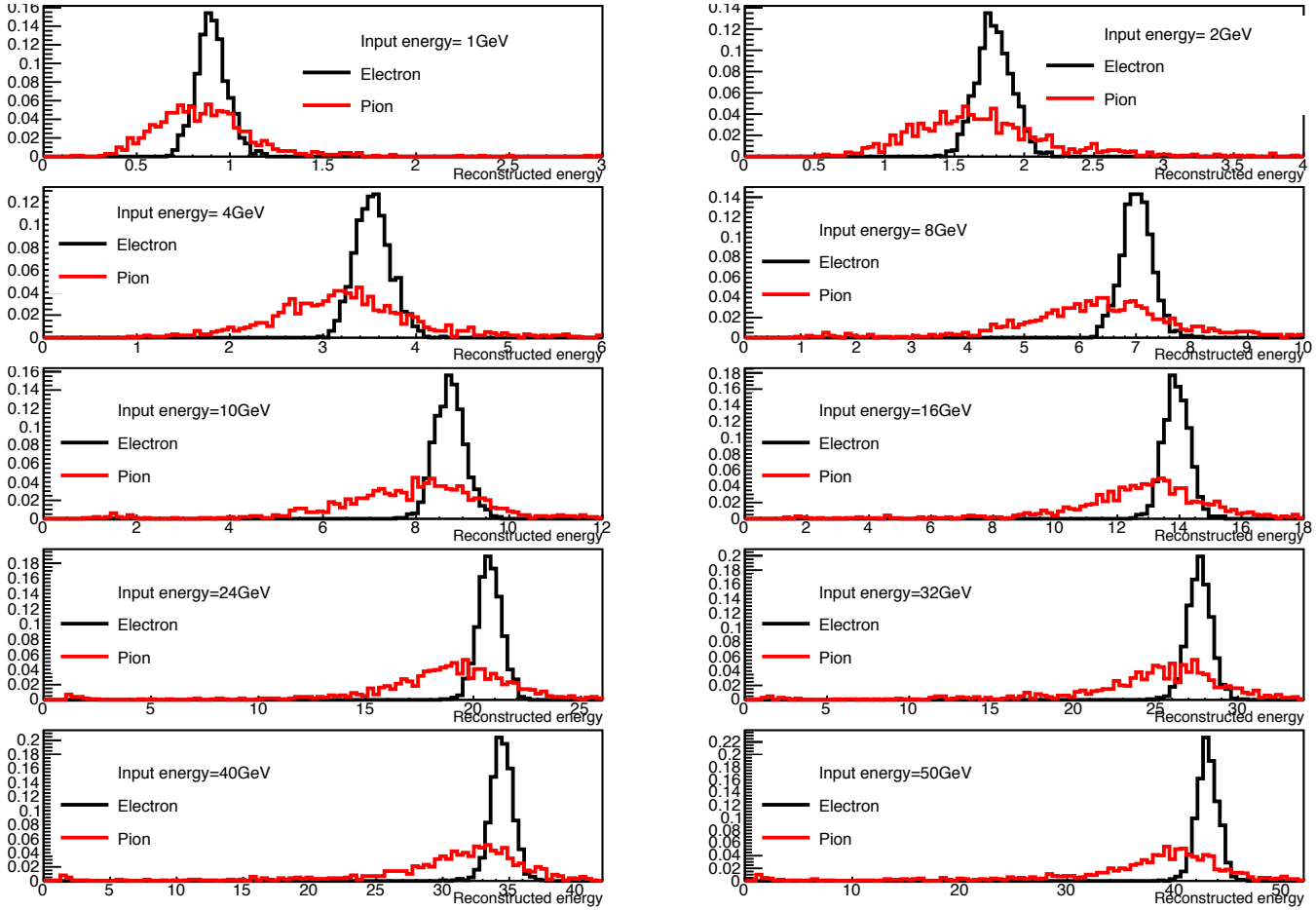
Muon Sampling fraction in HCAL





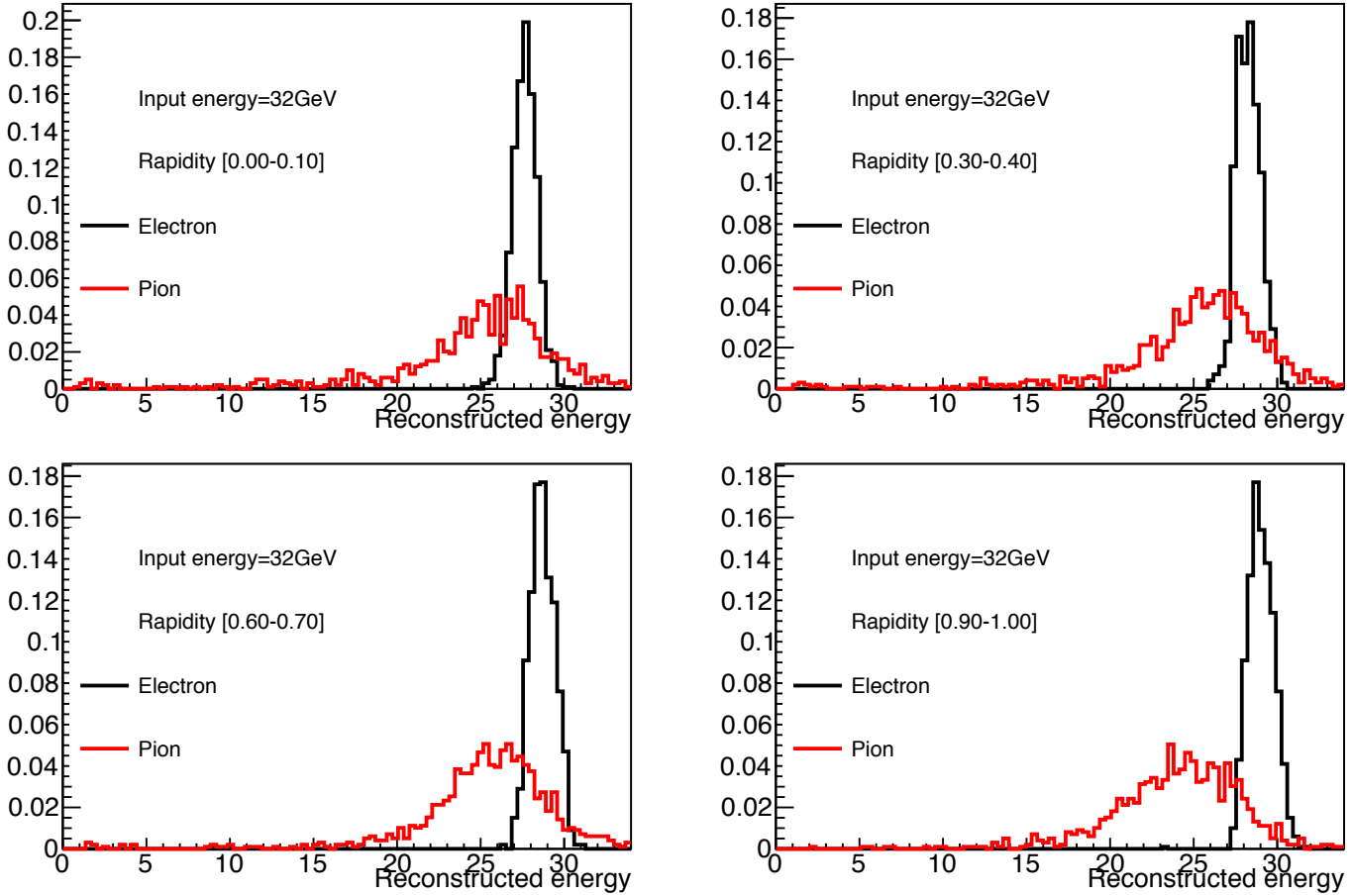
Not much dependence on rapidity or input energy of muons.

Reconstructed energy



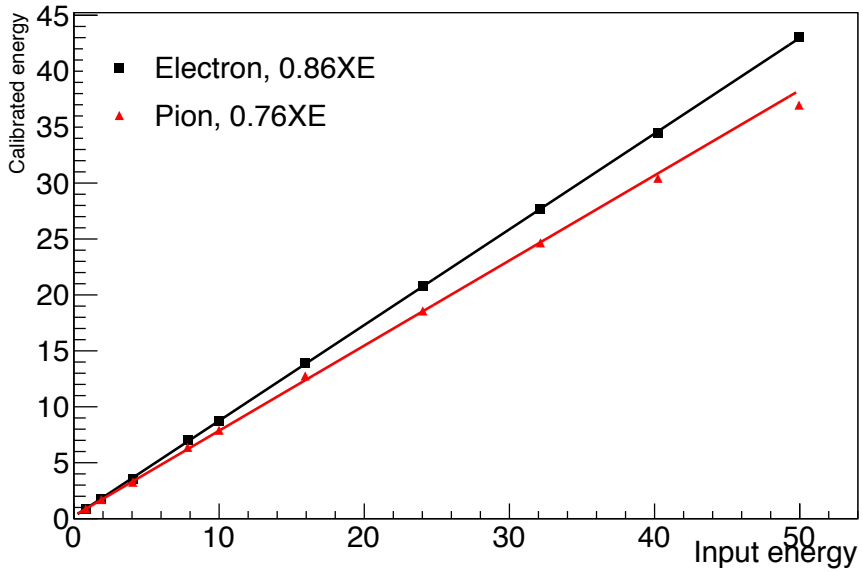
$$E_{cal} = \frac{\sum_{EMCal_scint} light_yield()}{< f_s^{EMC} >} + \frac{\sum_{iHCAL_scint} light_yield()}{< f_s^{iHCAL} >} + \frac{\sum_{oHCAL_scint} light_yield()}{< f_s^{oHCAL} >}$$

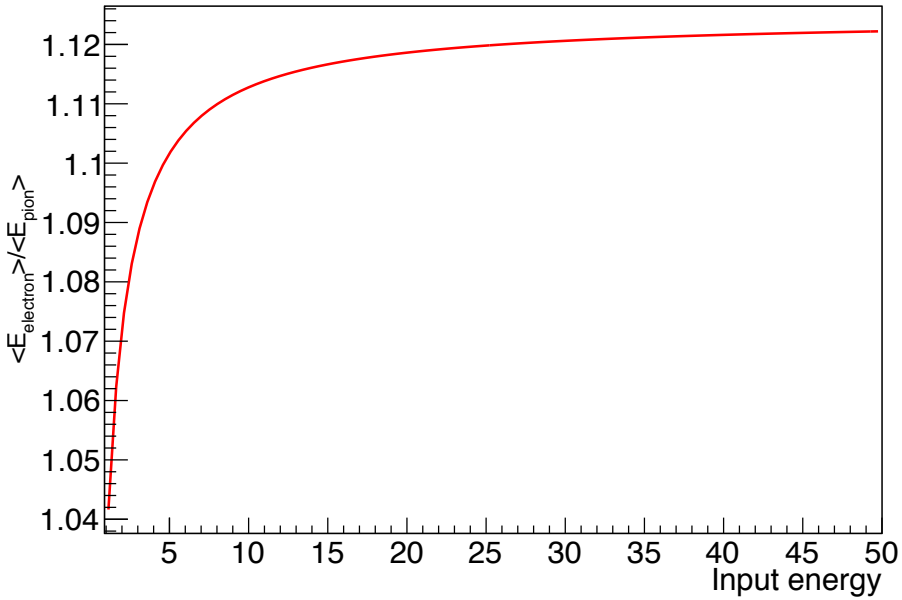
Reco energy vs rapidity



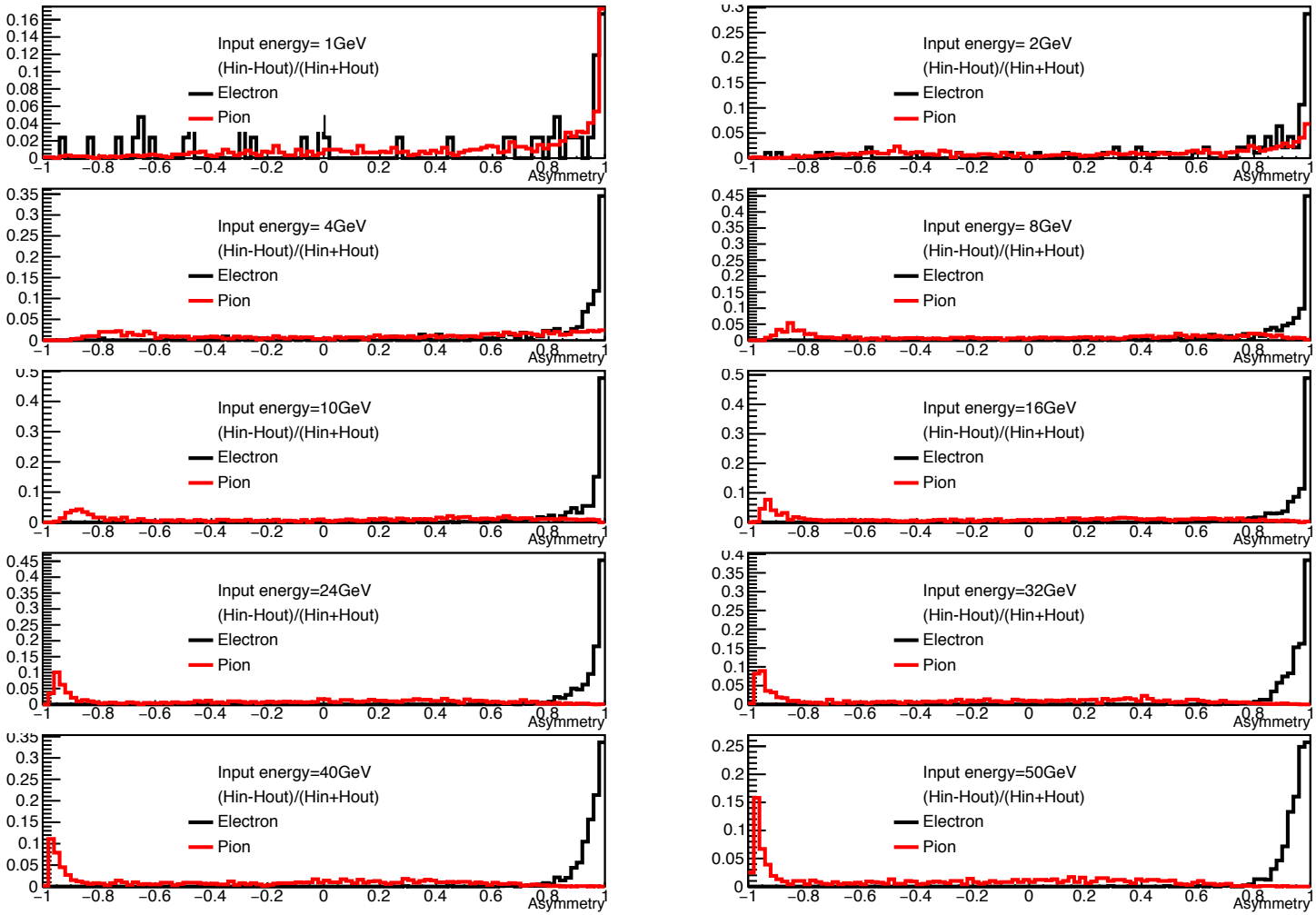
Not much dependence on rapidity on reconstruction efficiency. (!!!!!)

Input vs calibrated energy

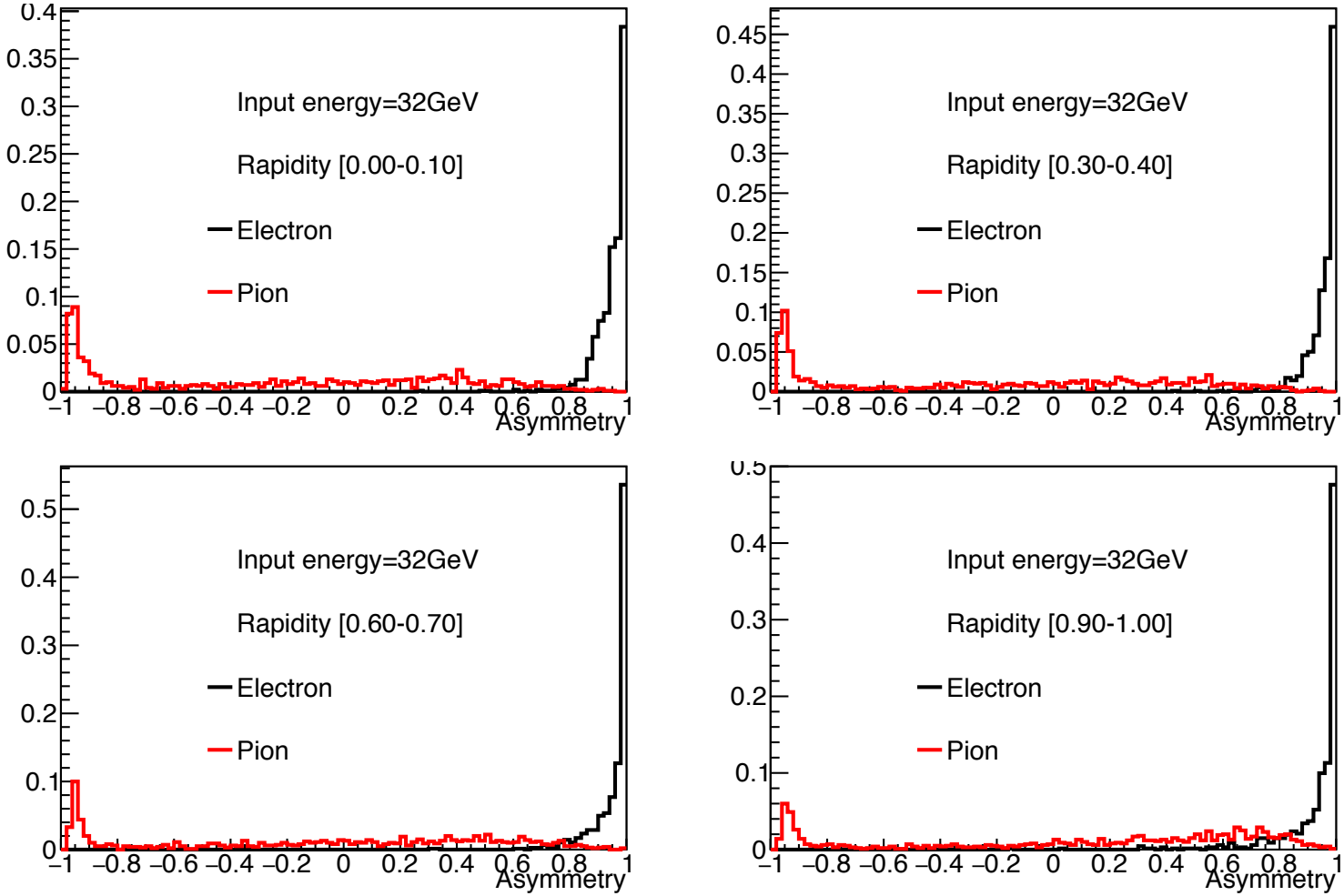




Asymmetry between HCalin and HCalout



Asymmetry vs rapidity



Not much dependence on rapidity on asymmetry either. (!!!!!)