

Angular Distribution at CEPC

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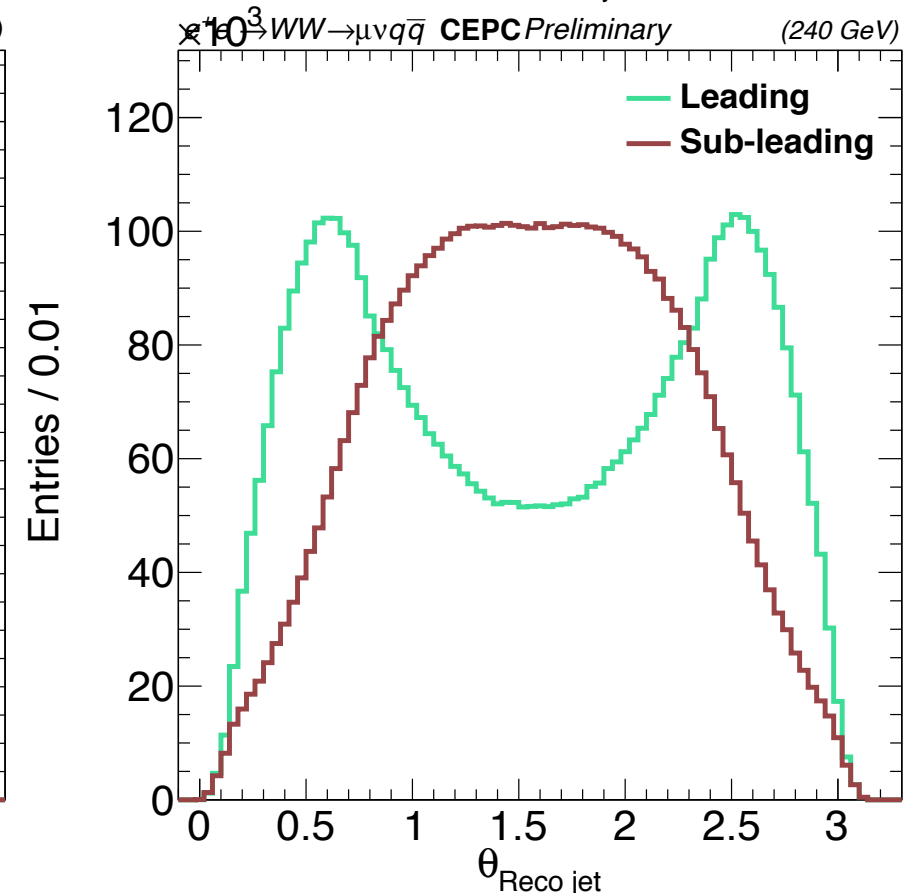
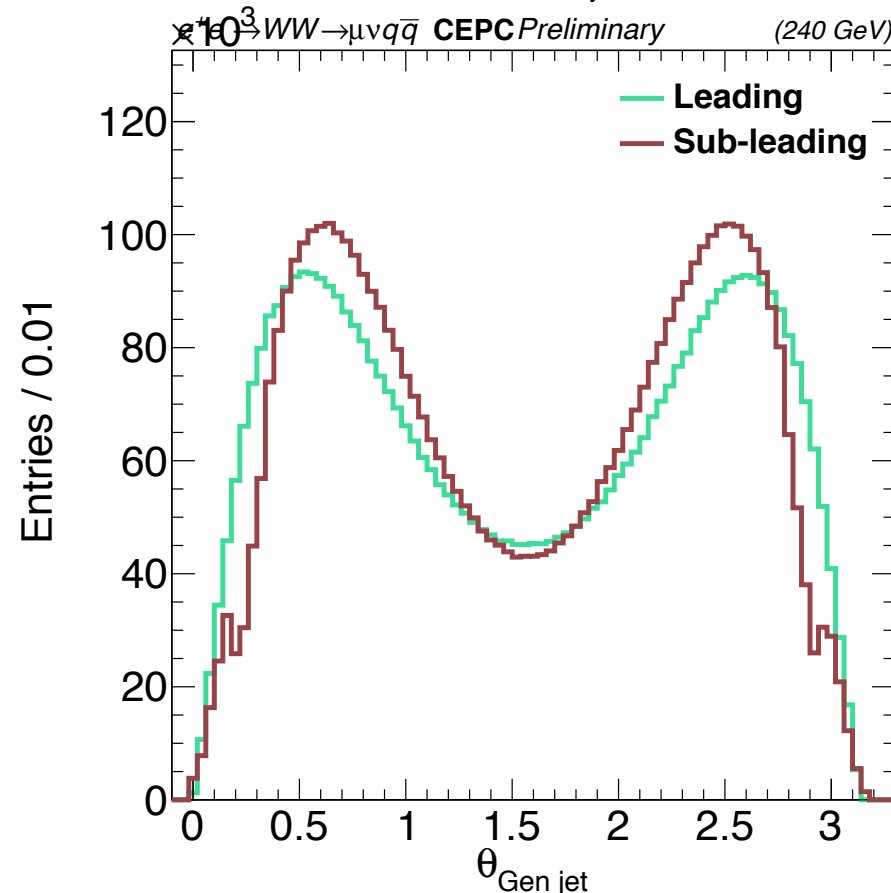
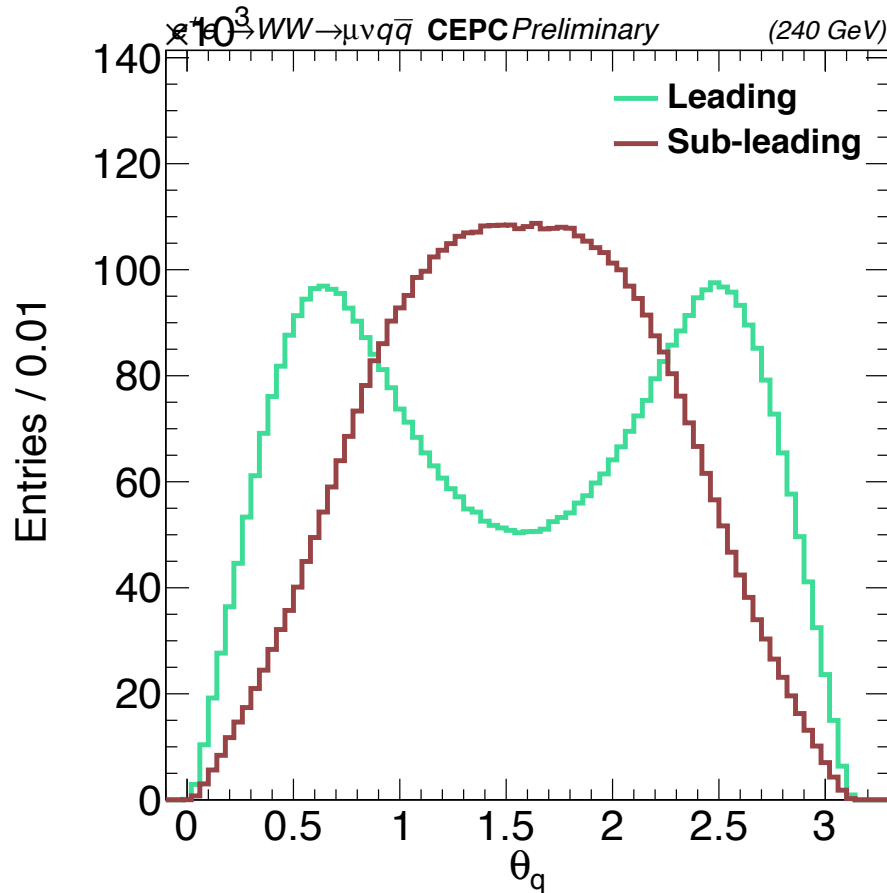
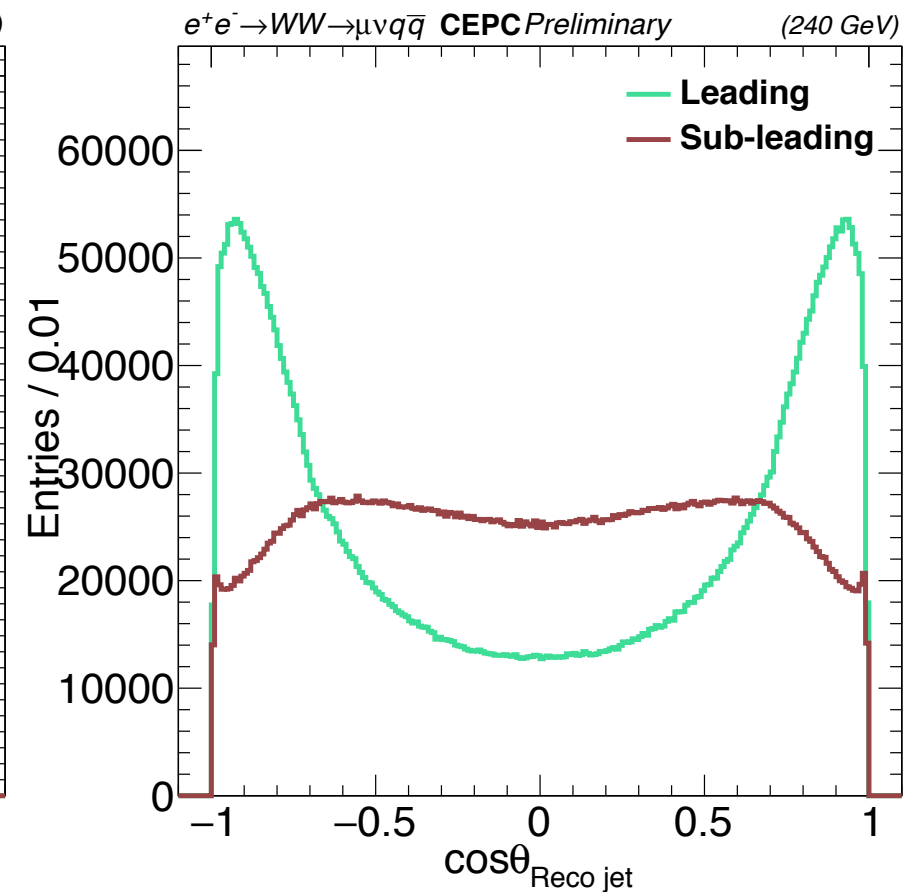
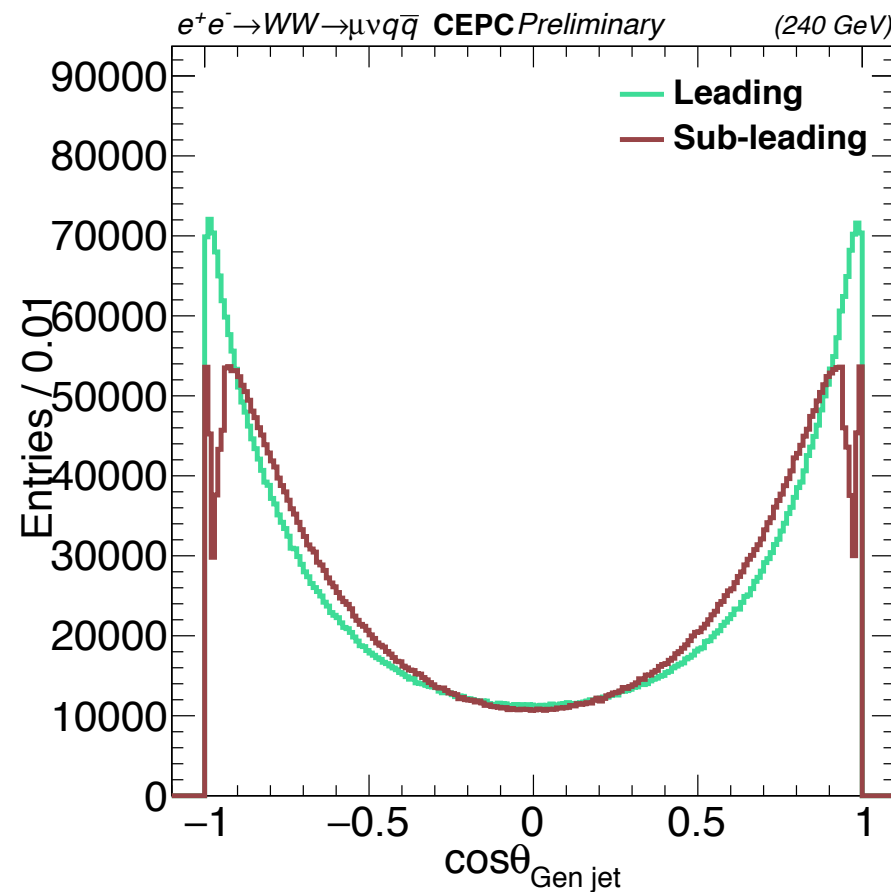
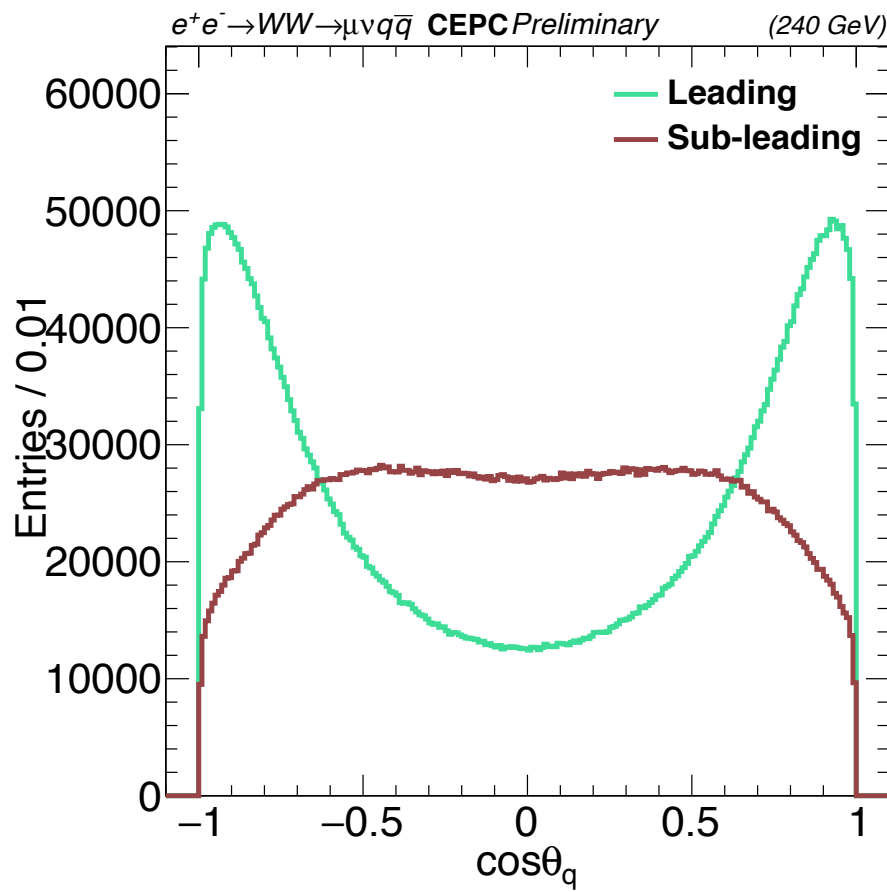
²Institute of High Energy Physics, China

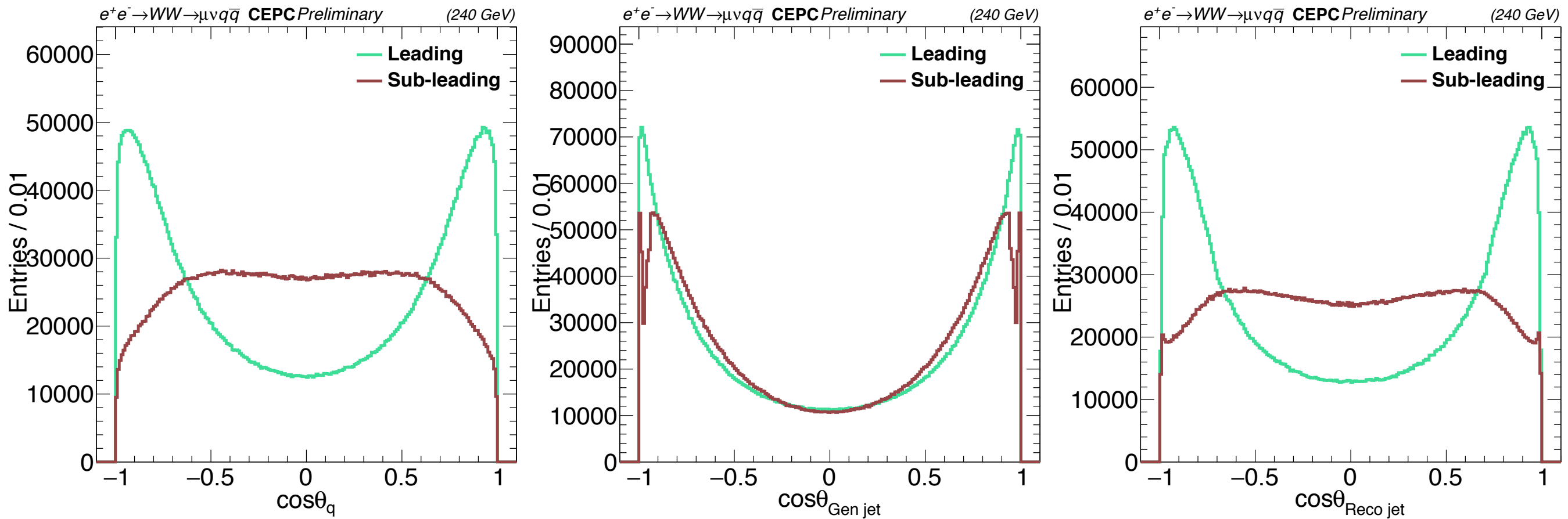
Group Meeting, NCU, Taiwan

Aug 31, 2018



- The angle distribution for ZZ , WW , ZH , and ISR return Z in dijet final state.



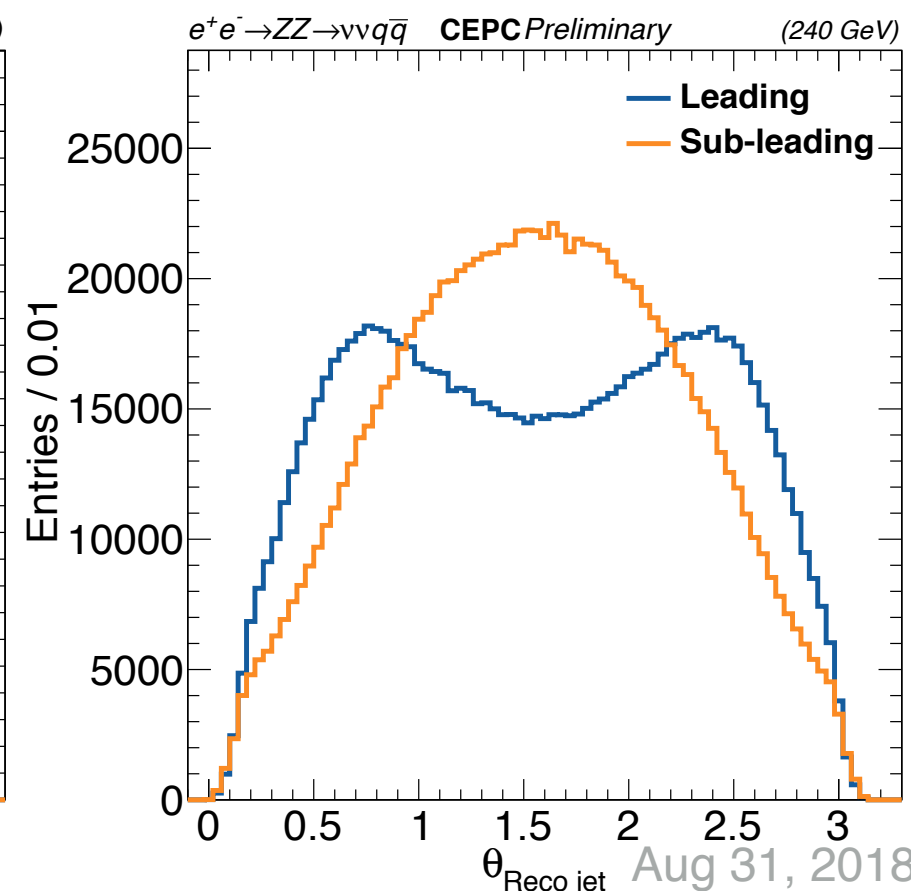
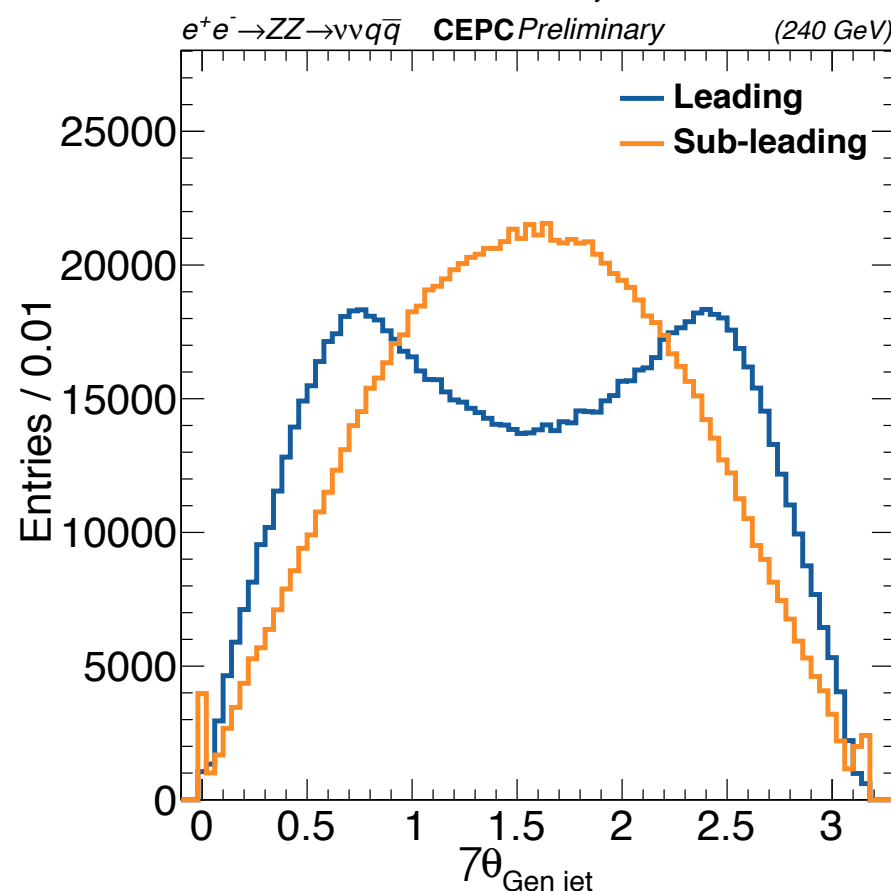
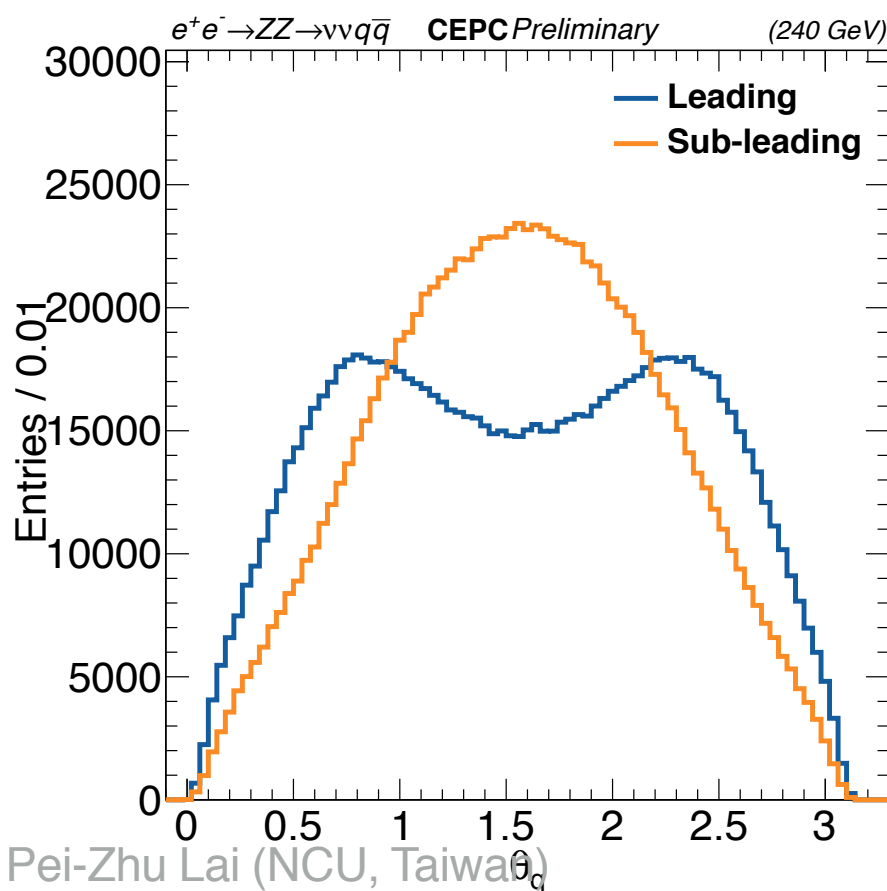
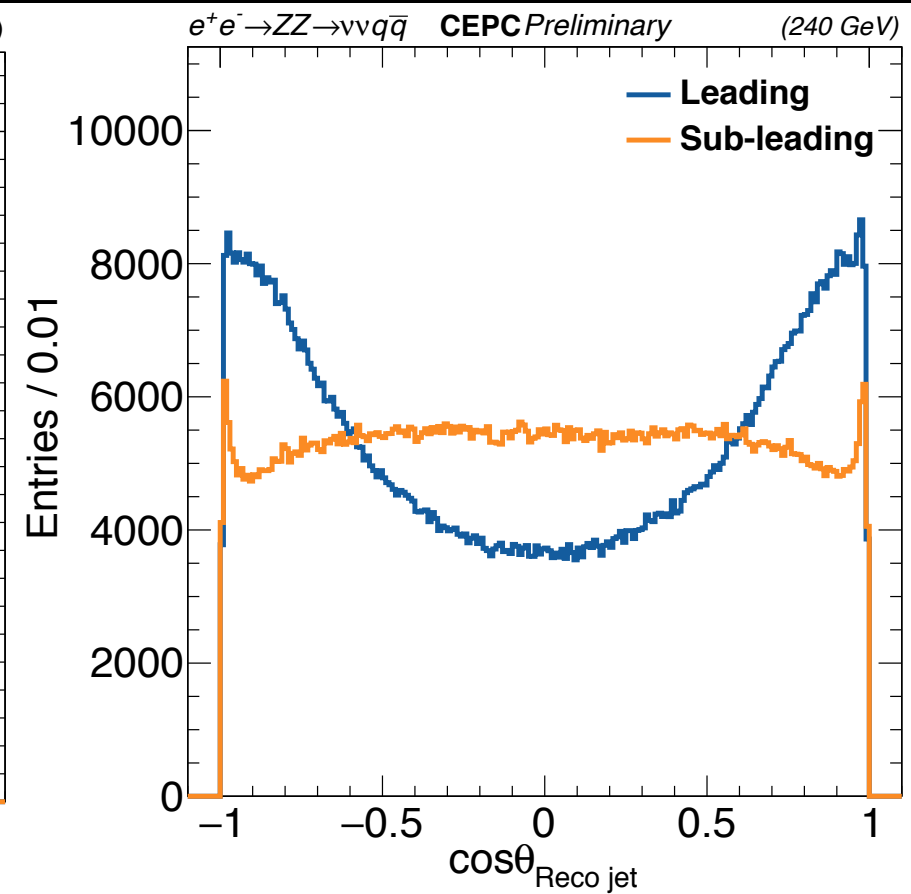
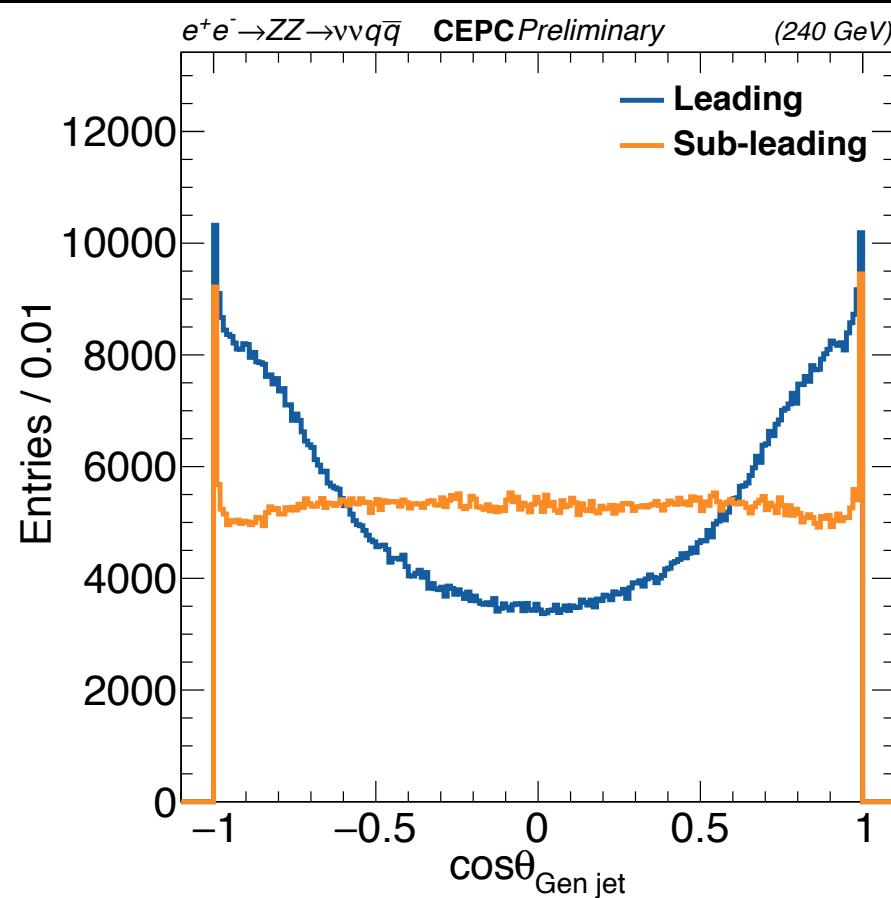
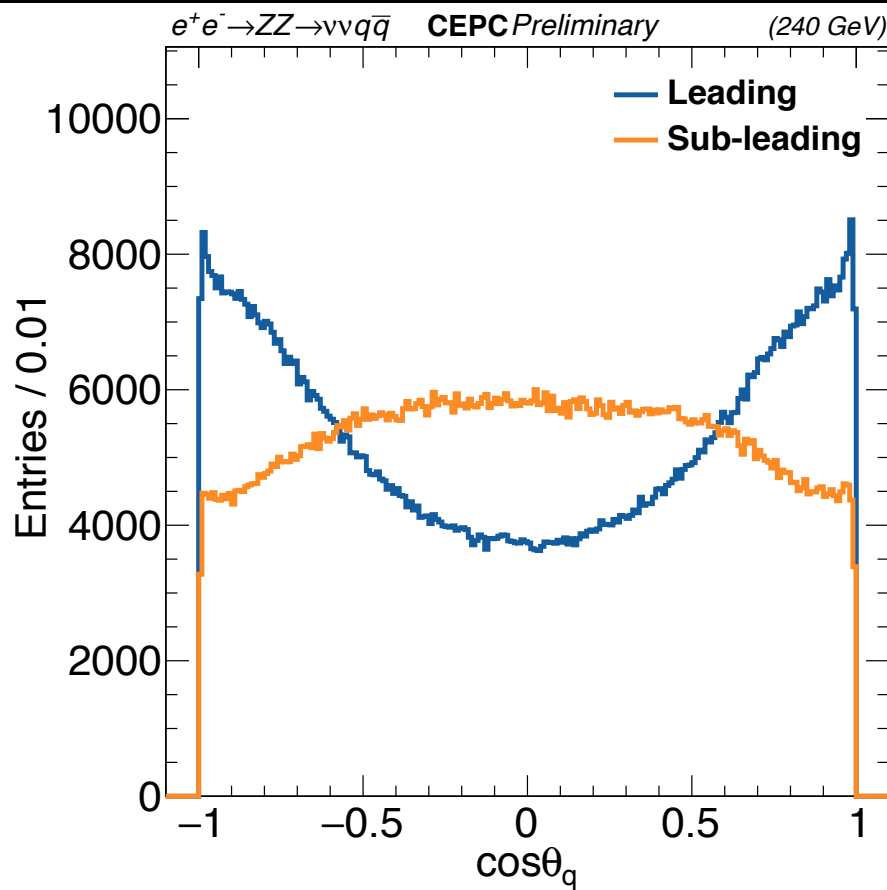


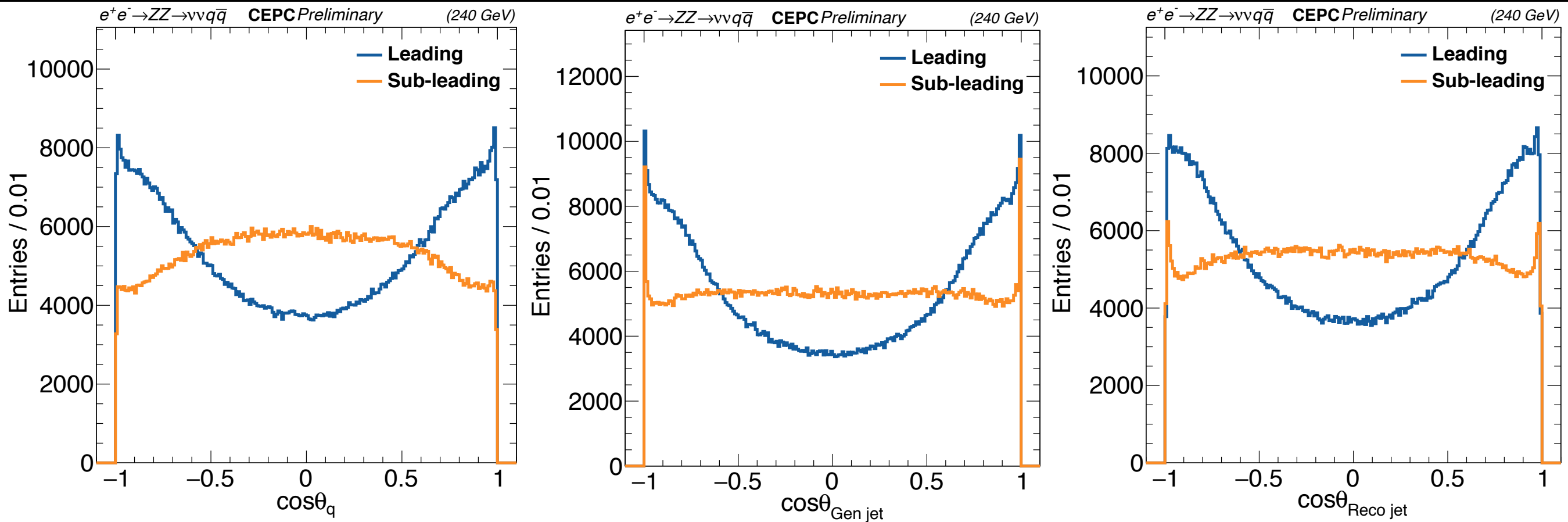
Inner Product	Parton-Gen	Gen-Reco	MCP-Reco
Leading	97.737%	97.071%	99.672%
Sub-leading	80.625%	84.019%	99.772%

- In ideal case, the angular distributions should be consist between three stages. However, some processes do not satisfy our expectations because of ISR effects, the prompt muon effects, etc.
- ZZ process: Gen jet $\cos\theta$ distribution exists a peak on $|\cos\theta|\approx 1$ region. It may be caused by ISR effect. **Try to remove the ISR photon in Gen jet.**
- WW process: The prompt muon must be put in the Gen jet. Therefore, the Gen jet angular distribution has significant difference. **Try to remove the ISR photon and the prompt muon.**
- ZH process: The q^+q^- performance is weird. **Check the code please.**
- ISR Z process: **Make the mass within Z-boson resonance region and remove ISR photon.**

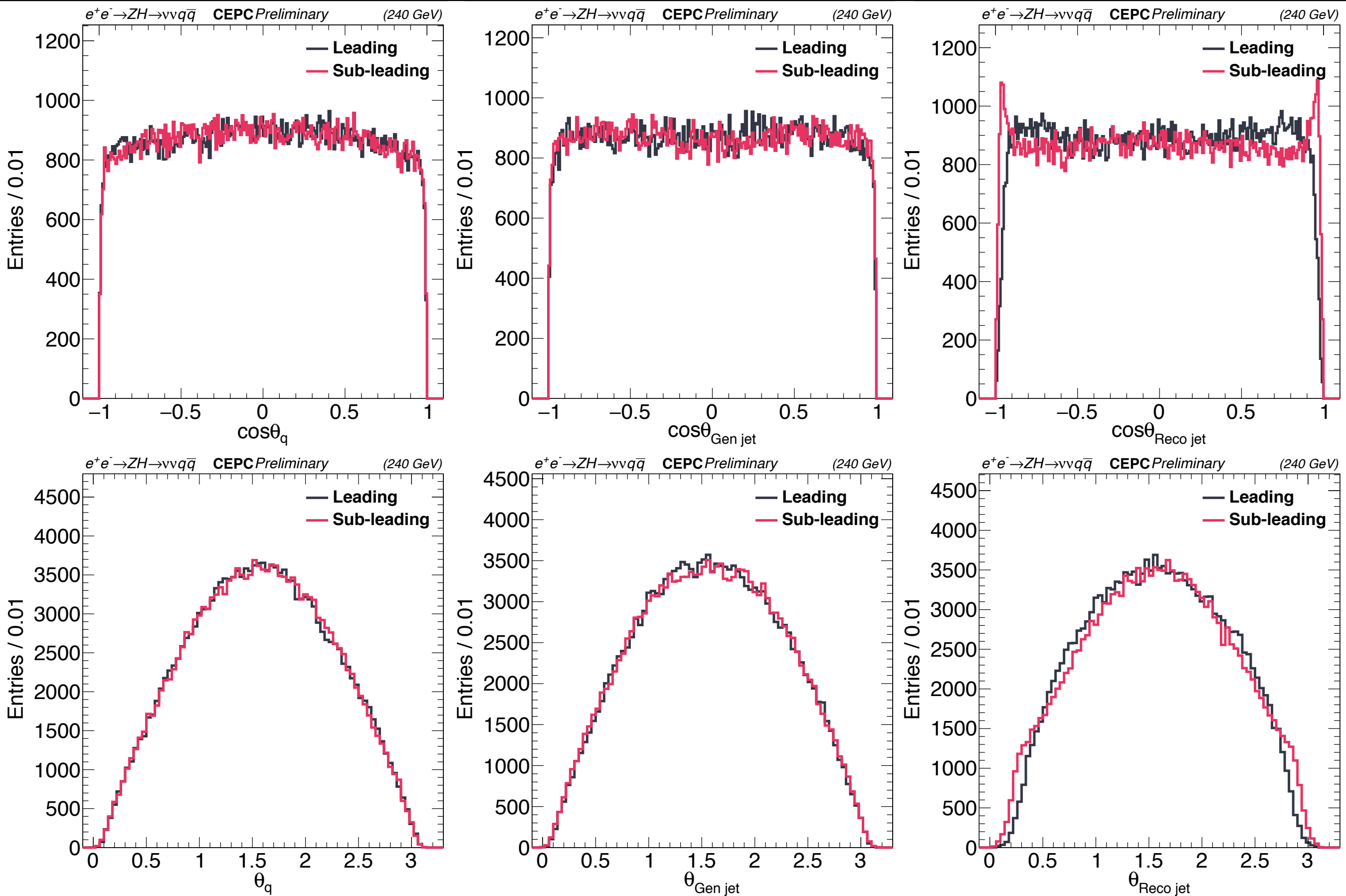


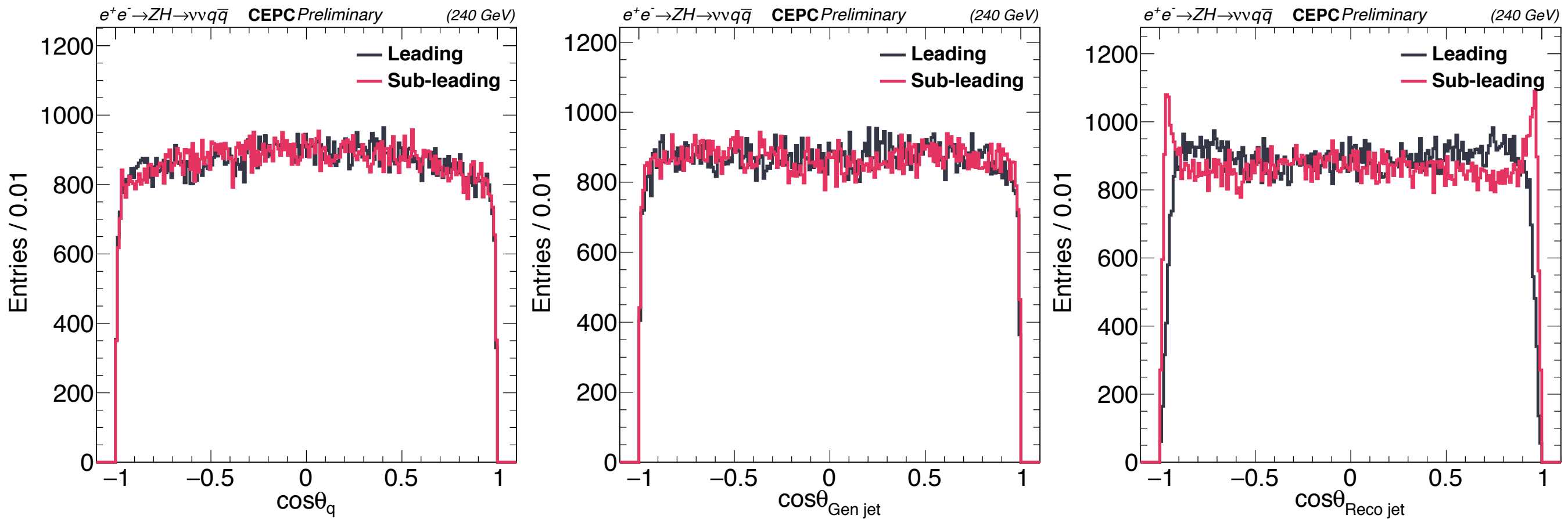
Back up



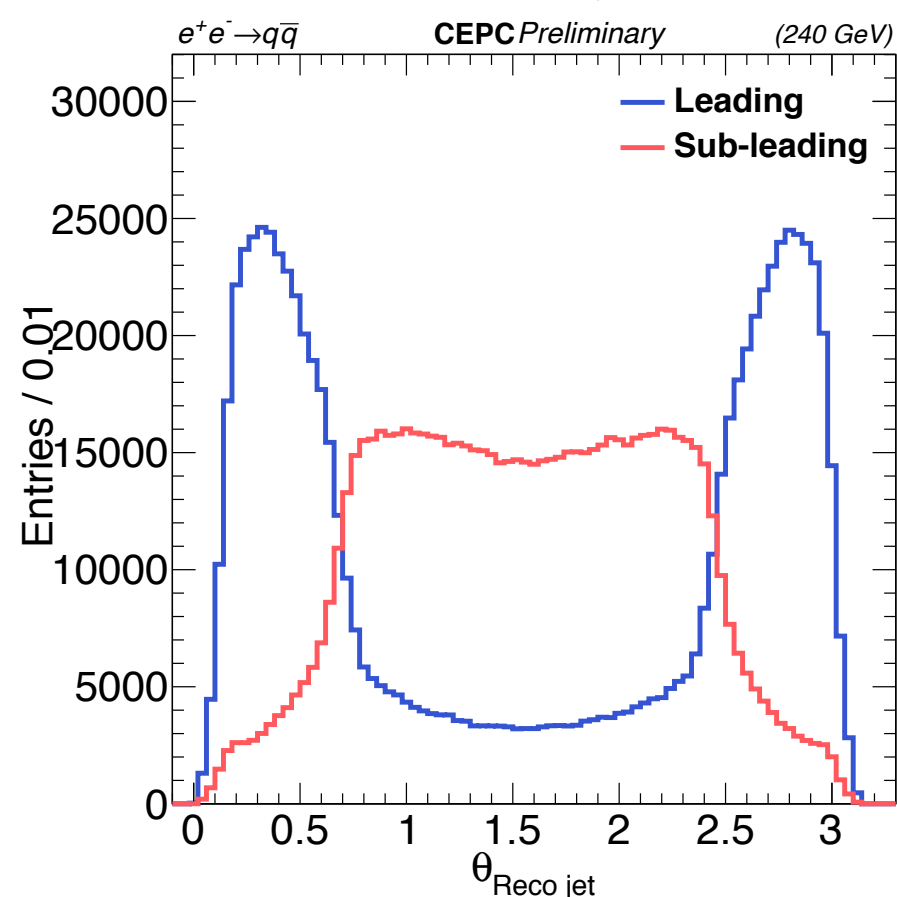
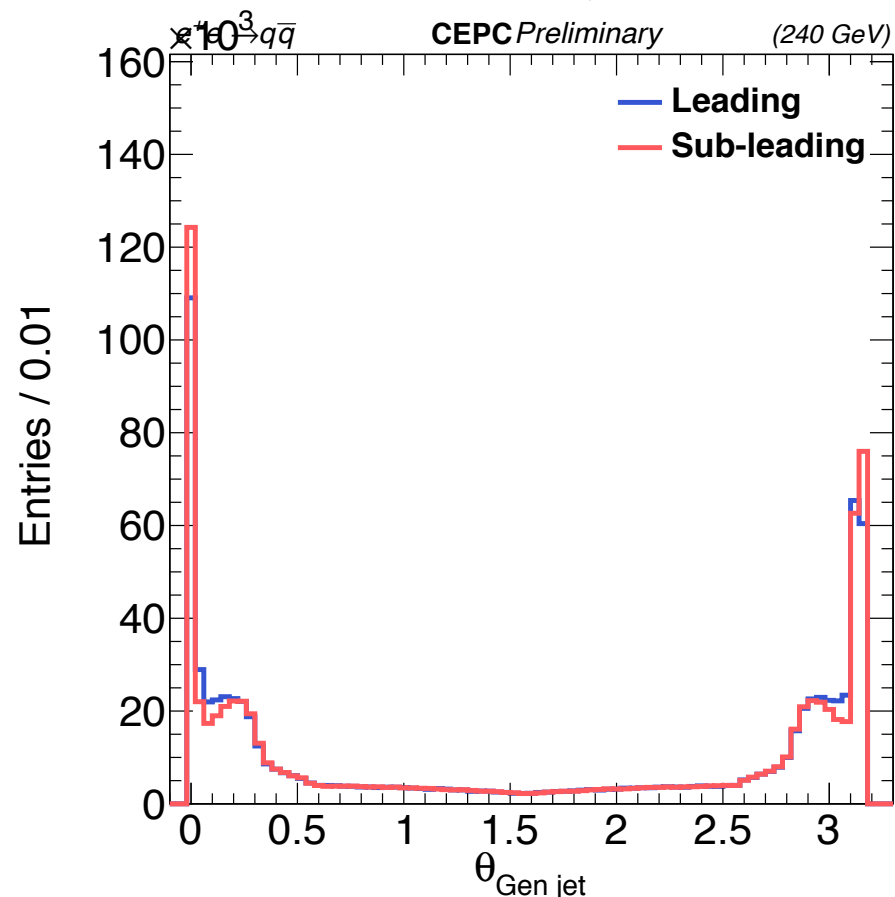
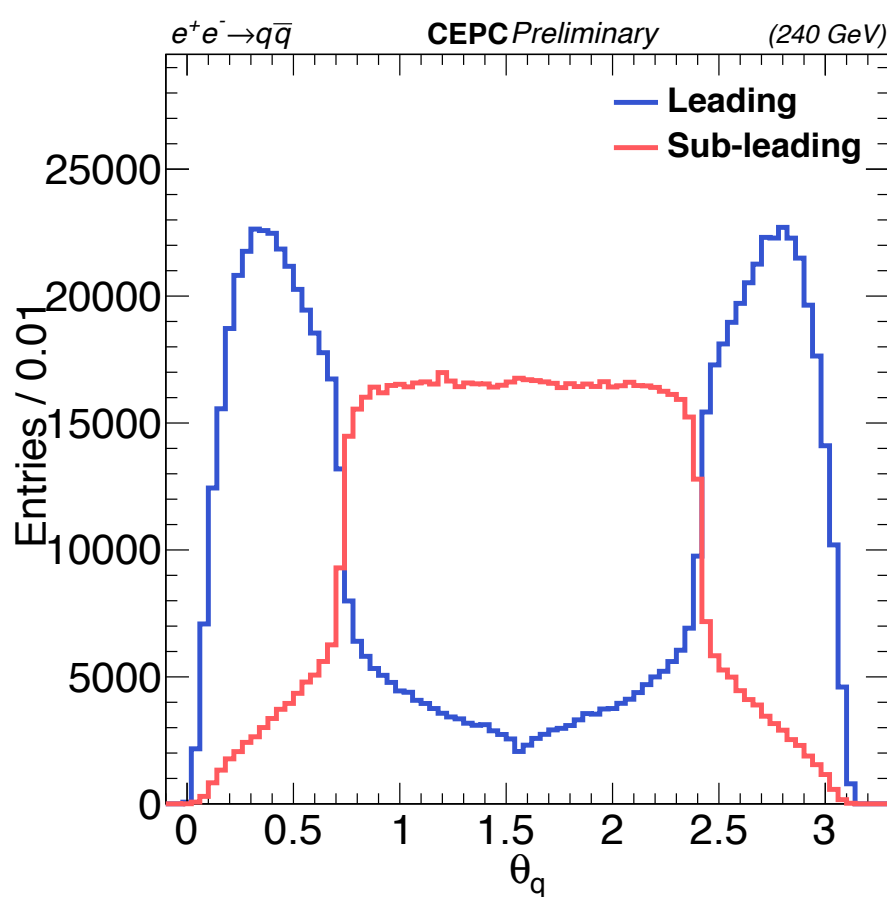
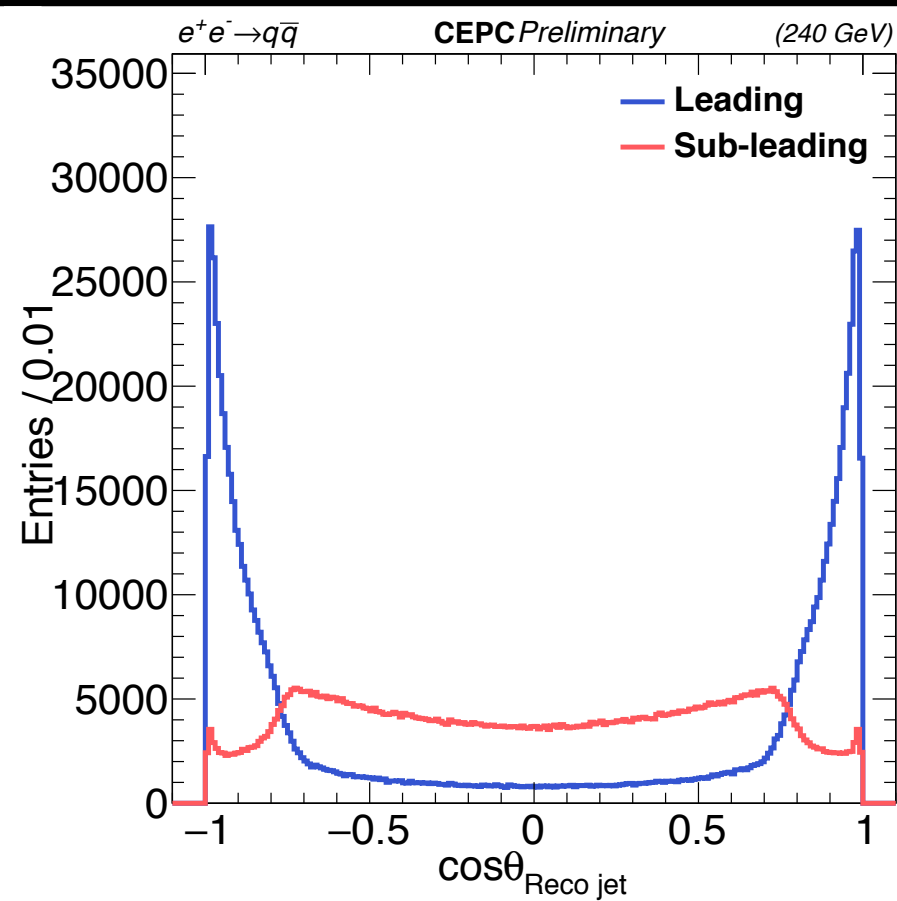
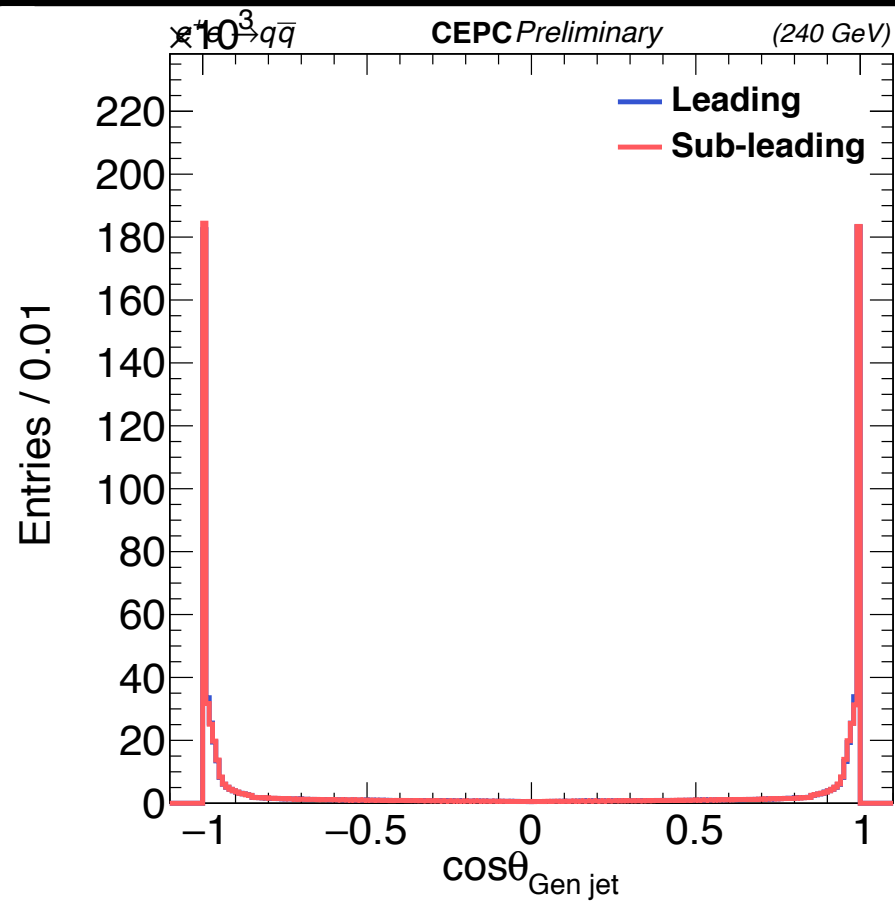
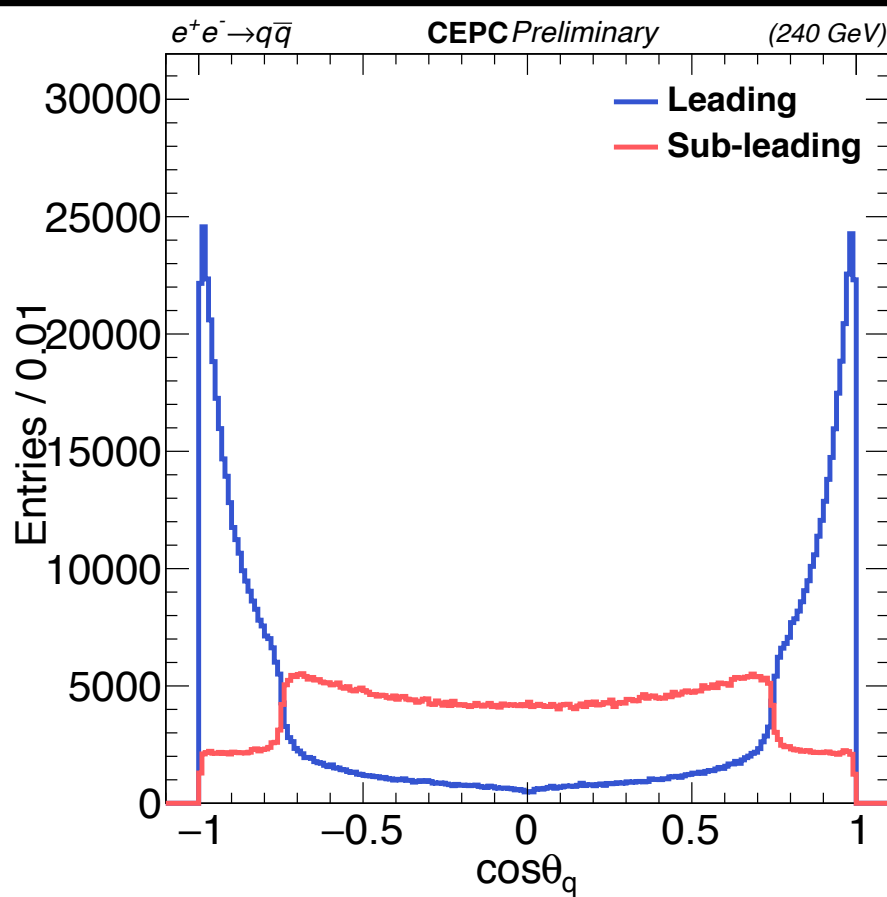


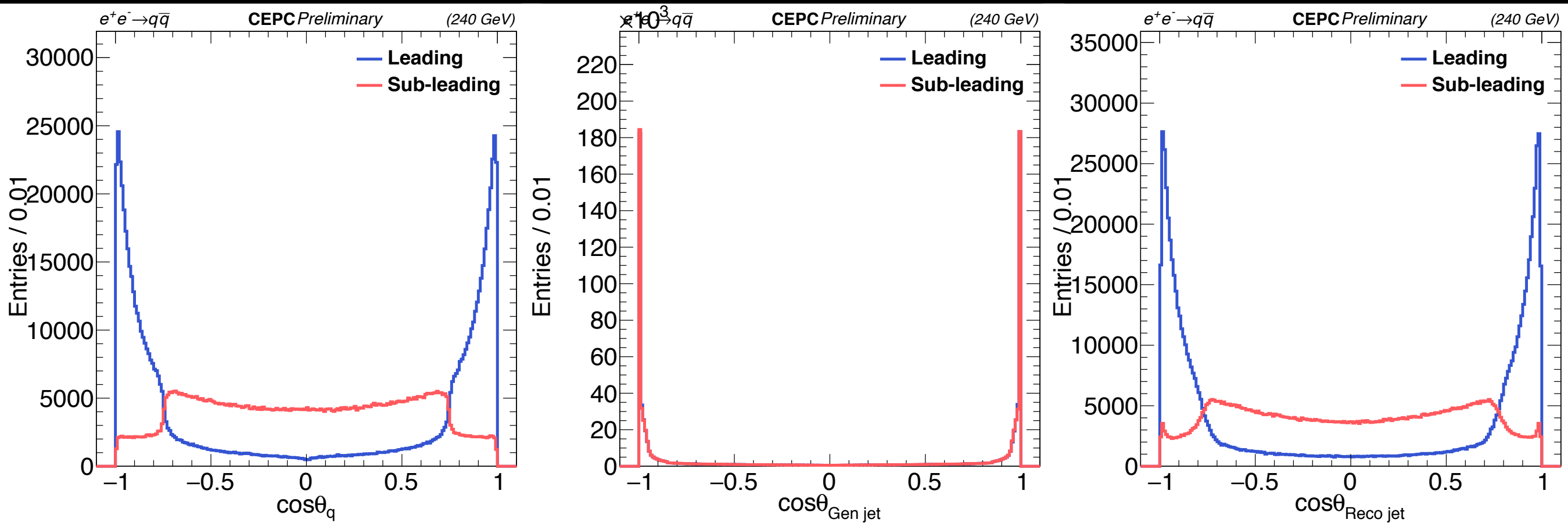
Inner Product	Parton-Gen	Gen-Reco	MCP-Reco
Leading	99.643%	99.274%	99.700%
Sub-leading	99.035%	99.470%	99.738%





Inner Product	Parton-Gen	Gen-Reco	MCP-Reco
Leading	99.882%	99.346%	99.387%
Sub-leading	99.815%	99.729%	99.670%





Inner Product	Parton-Gen	Gen-Reco	MCP-Reco
Leading	52.693%	45.473%	99.161%
Sub-leading	11.020%	15.145%	98.969%

