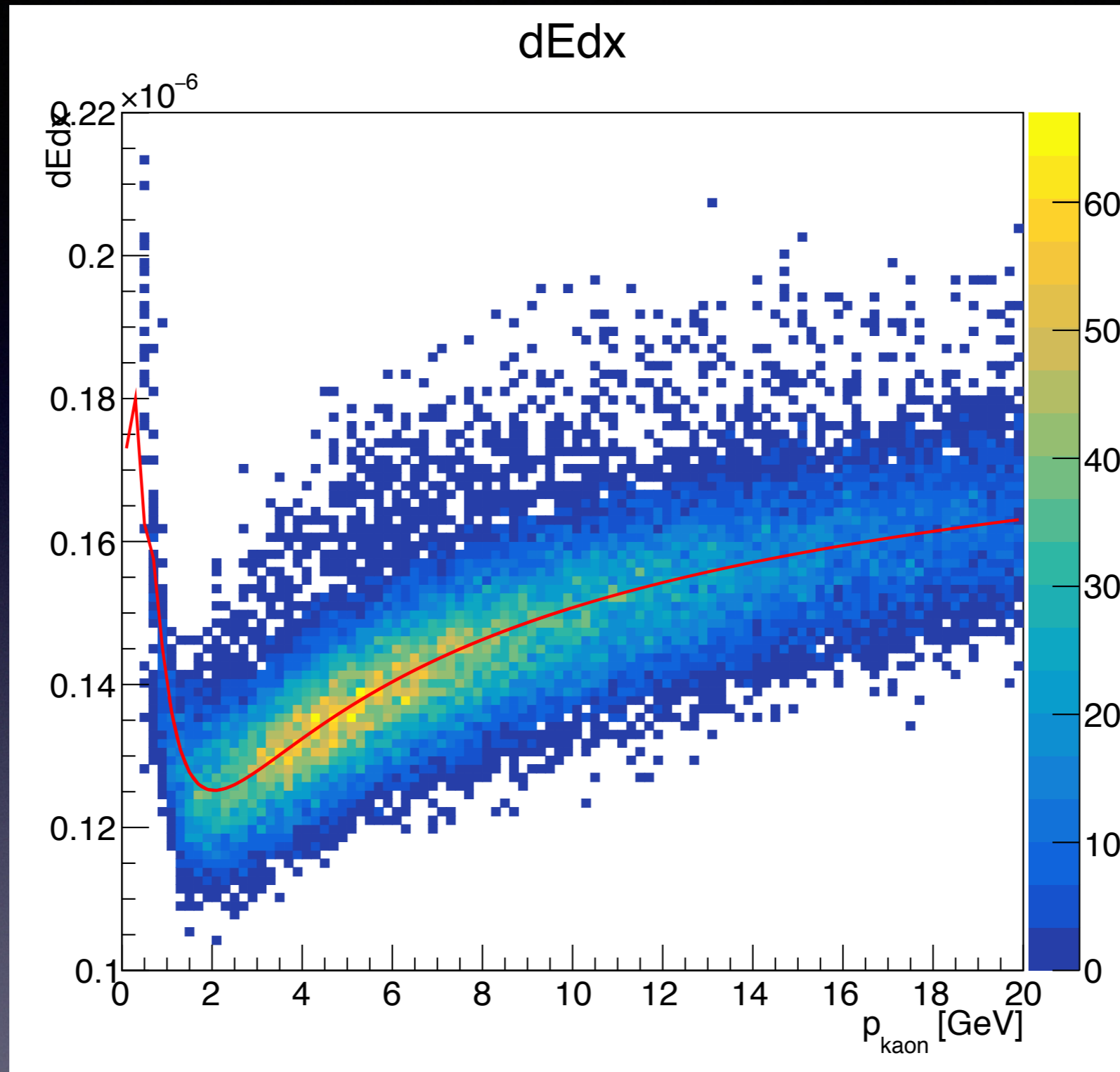


Update 11/26/18

Y. Okugawa, R. Yonamine, R. Pöschl

Kaon ID

- Kaon reconstructed in the current analysis uses the cheated information from MC.
- PID needs to be applied for kaon identification.
- ParticleTagger processor



dEdx vs. p for kaon from Top1

Plotted the dEdx with momentum of kaon from top1, fitted with Bethe-Bloch formula.

Jet Finder

- ~~SatoruJetFinder~~ do not function in new ILCSoft version.
- Input collections for FastJet Processor for TTbar is using MC collection instead of reconstructed particles.
- After running ParticleTagger, we might be able to run TrashRecoProcessor which relates reconstructed information with those from MC.

【ILCsoft v01-17-11】

===== Baseline Cuts =====

nEvents = 85056 (100%)
after lepton cuts = 73277 (86.1515%)
after btag cuts (0.8 & 0.3) = 67842 (79.7616%)
after thrust cut = 67842 (79.7616%)
after hadronic mass cut = 66254 (77.8946%)
after reco T & W mass cut = 60880 (71.5764%)

===== Non-baseline Cuts =====

after gcut = 50634 (59.5302%)
after pcut = 30009 (35.2815%)

recoforward = 15588

recobackward = 7718

Afb gen: 0.329718 N: 164292

Afb reco: 0.337681 N: 23306(102.415%)

Final efficiency: 28.3714%

【ILCsoft v02-00-01】

===== Baseline Cuts =====

nEvents = 73579 (100%)
after lepton cuts = 61372 (83.4097%)
after btag cuts (0.8 & 0.3) = 53605 (72.8537%)
after thrust cut = 53605 (72.8537%)
after hadronic mass cut = 50830 (69.0822%)
after reco T & W mass cut = 43555 (59.1949%)

===== Non-baseline Cuts =====

after gcut = 34985 (47.5475%)
after pcut = 24324 (33.0583%)

recoforward = 12170
recobackward = 6032

Afb gen: 0.330374 N: 142148
Afb reco: 0.337216 N: 18202(102.071%)

Final efficiency: 25.6099%

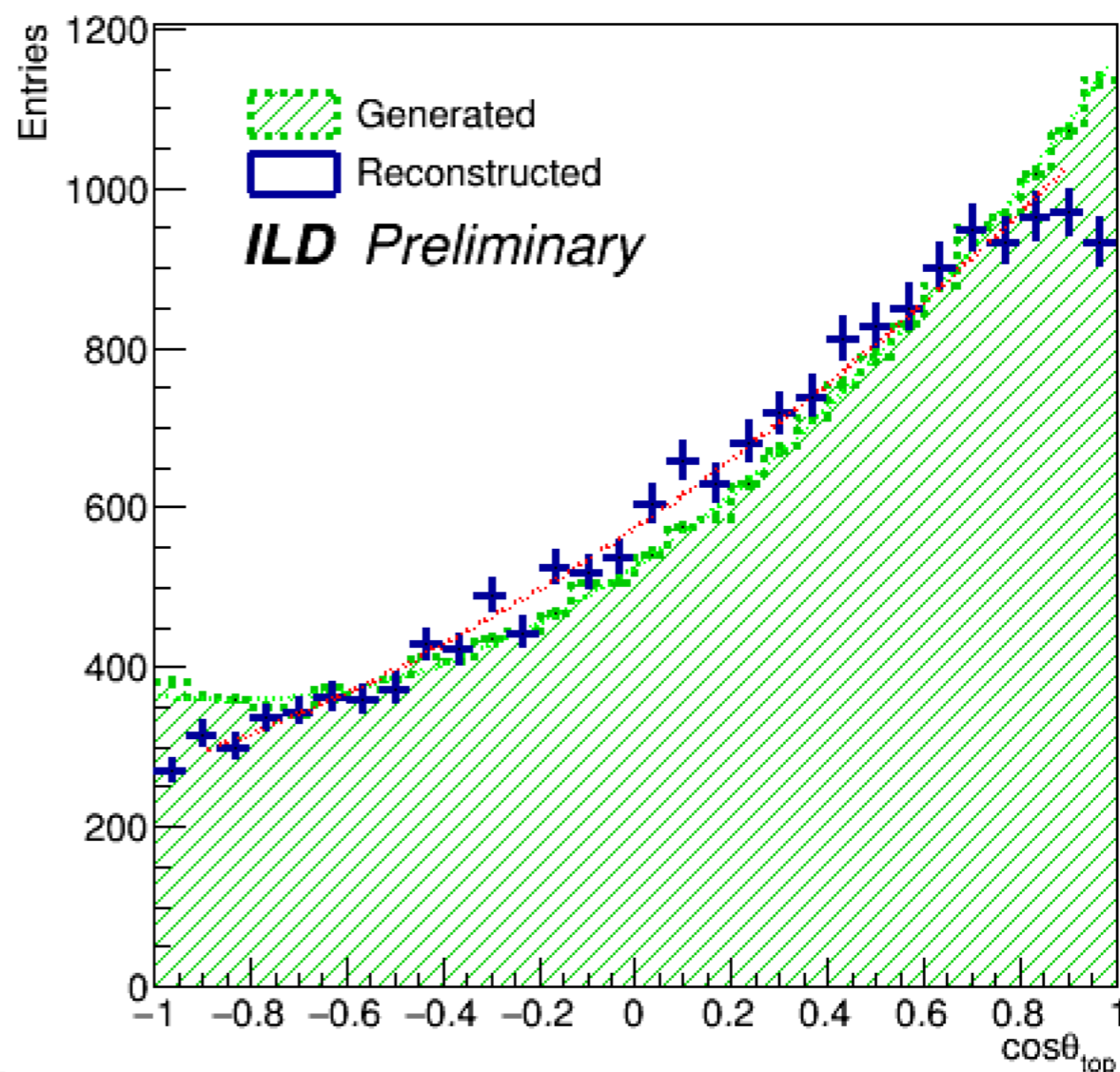
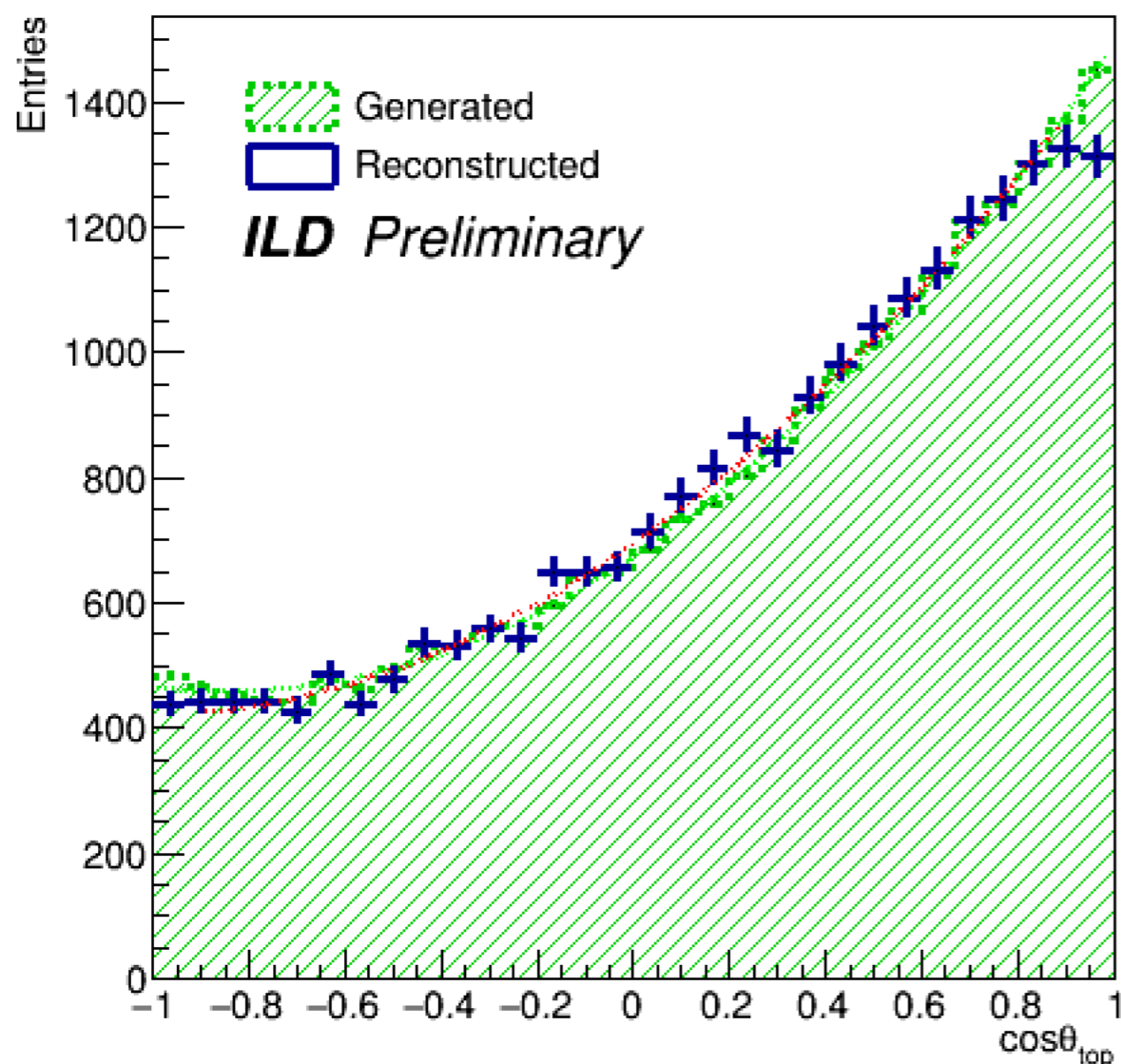
Vertexing

- Do vertexing before the flavor tag.
- New IDR samples includes IP smearing thus vertexing should also take this into account.
- Once the vertexing is over, we expect to finish with transition to new ILCSoft version. Next step could be taken once Roman comes on 26th.

Top Polar Angle

【ILCsoft v01-17-11】

【ILCsoft v02-00-01】



Afb gen: 0.329718 N: 164292
Afb reco: 0.337681 N: 23306(102.415%)
Chi2: 1.27346

Afb gen: 0.330374 N: 142148
Afb reco: 0.337216 N: 18202(102.071%)
Chi2: 4.81084

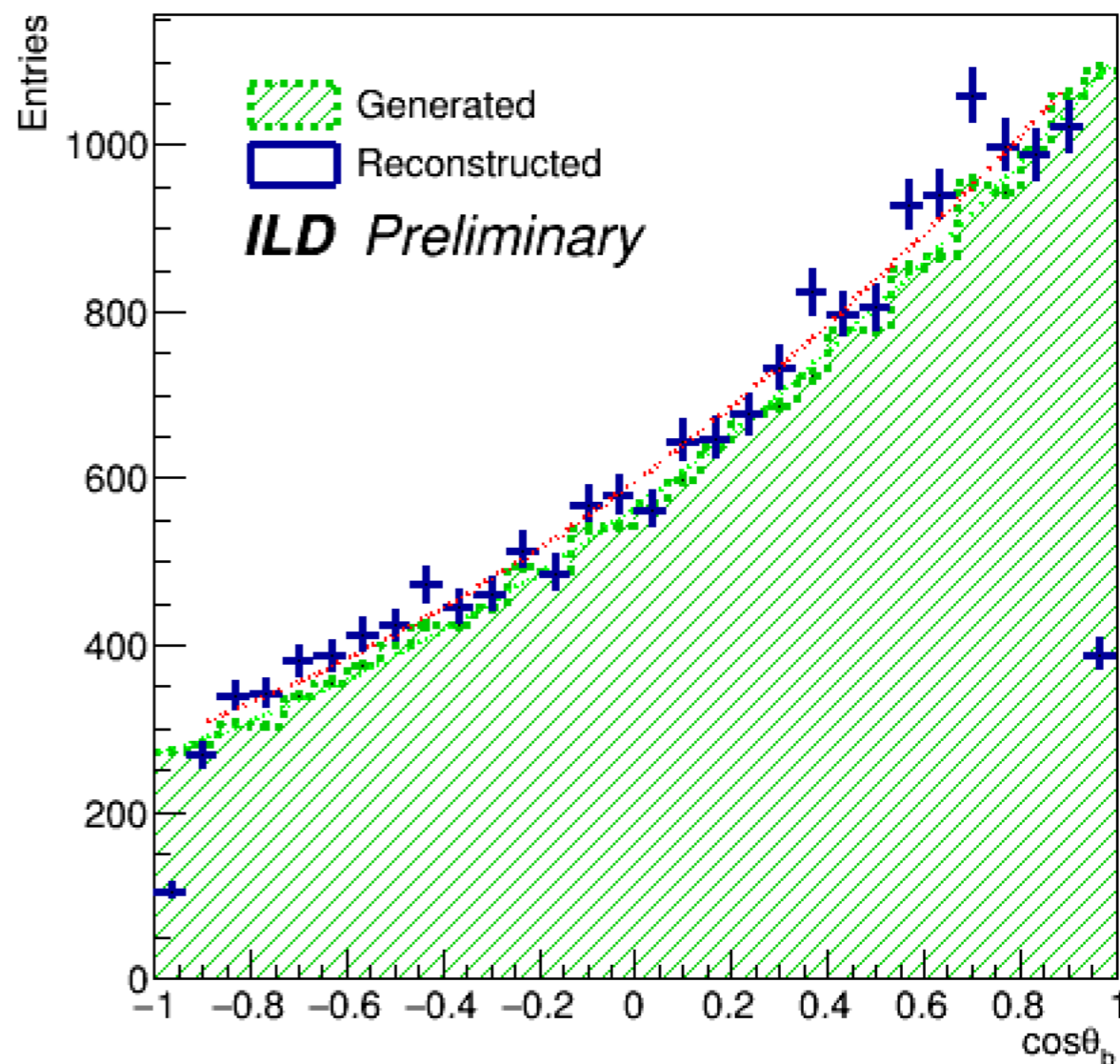
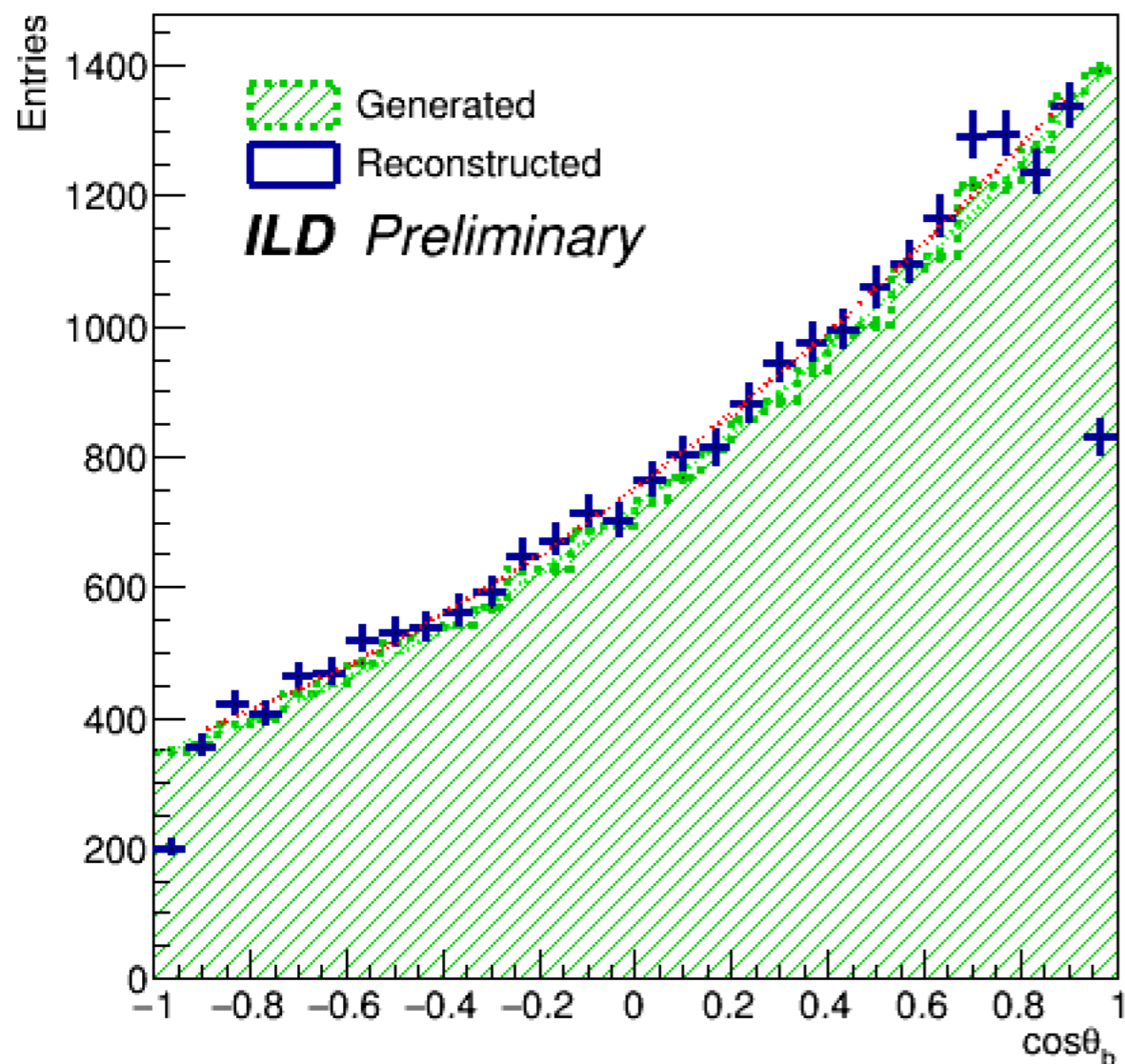
Afb gen functional: 0.330221
Afb reco functional: 0.339341(102.762%)
Final efficiency: 28.3714% (+-7.88495%)

Afb gen functional: 0.331114
Afb reco functional: 0.333796(100.81%)
Final efficiency: 25.6099% (+-16.8509%)

b Polar Angle

【ILCsoft v01-17-11】

【ILCsoft v02-00-01】



Afb gen: 0.341952 N: 164292
Afb reco: 0.330301 N: 23306(96.5928%)
Chi2: 10.5052

Afb gen: 0.341996 N: 142148
Afb reco: 0.319965 N: 18202(93.5582%)
Chi2: 20.8131

Afb gen functional: 0.344326
Afb reco functional: 0.338183(98.2159%)
Final efficiency: 28.3714% (+-7.88495%)

Afb gen functional: 0.344674
Afb reco functional: 0.3345(97.0484%)
Final efficiency: 25.6099% (+-16.8509%)