

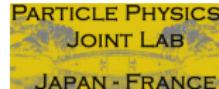
IDR Report

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May 31, 2019



Environment

Setting

- ILCSoft v02-00-02
- Used yyxylv and yyxyev events (eliminated isolated tau)
- Polarization of eLpR is used.

Cuts

Basic selection cuts:¹

- Lepton cut: Iso.Lep. > 5 GeV
- Hadronic mass:
 $180 < M_{Had} < 420$
- $btag1 > 0.8$ or $btag2 > 0.3$
- Thrust: $thrust < 0.9$
- Top1 mass: $120 < m_{t1} < 270$
- W1 mass: $50 < m_{W1} < 250$

Lorentz Gamma cuts:

- $\gamma_t^{had} + \gamma_t^{lep} > 2.4$
- $\gamma_t^{lep} < 2.0$

b-quark Momentum cuts:

- $|p|_{had} > 15$ GeV

¹Main distinct algorithm to distinguish top and anti-top.

Polar Angle Distribution

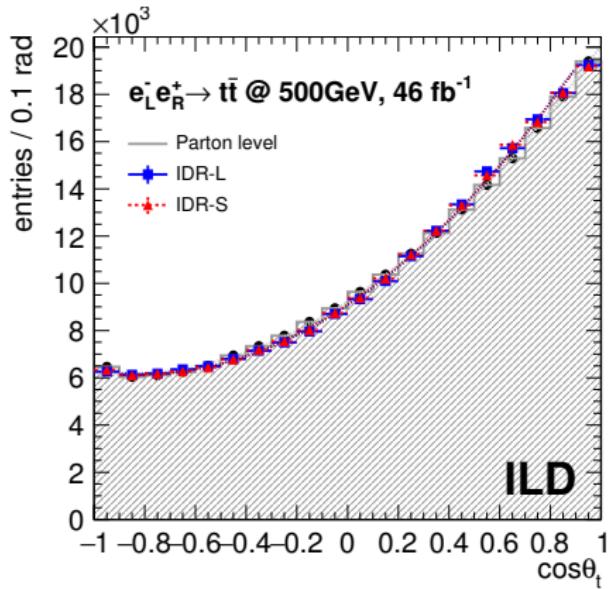


Figure: top polar angle

Afb gen	0.328288	N: 1351248
Afb reco	0.338966	N: 210334
Final efficiency	31.1318%	IDR-L

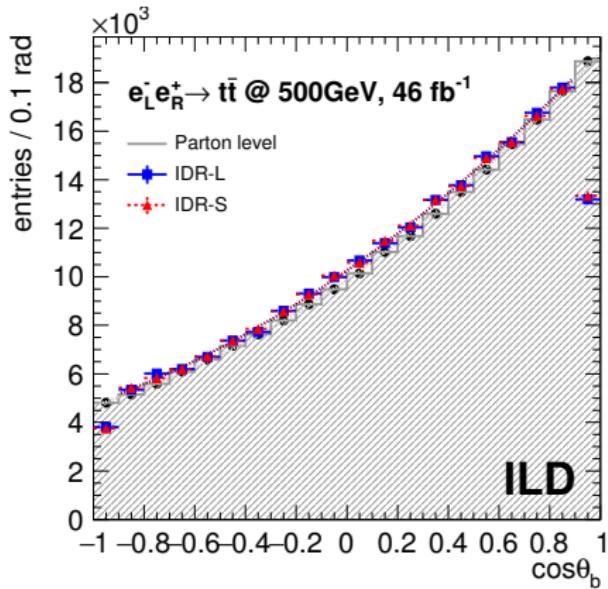


Figure: b polar angle

Afb gen	0.328233	N: 1418738
Afb reco	0.338662	N: 219177
Final efficiency	30.8975%	IDR-S

Polar Angle Distribution (eRpL)

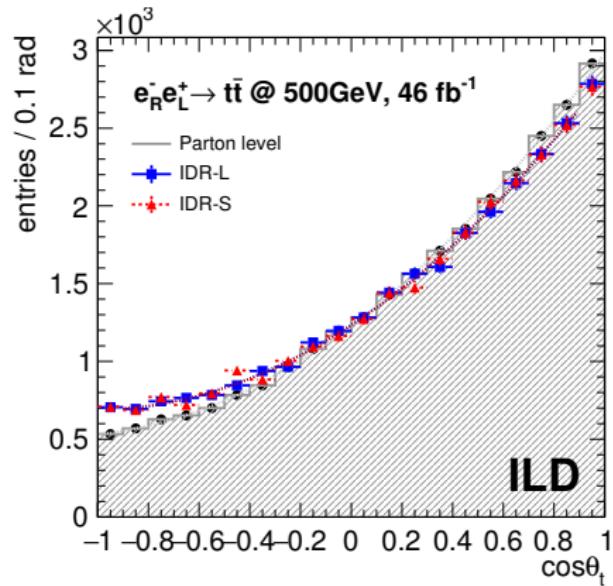


Figure: First look of the polar angle distribution for eRpL sample. Credit: Victor Lohezic

Basic Selection Efficiencies

Large Detector

nEvents	697476	(100.%)
after lepton cuts	645418	(92.5%)
after btag cuts (0.8 & 0.3)	569699	(81.7%)
after thrust cut	569699	(81.7%)
after hadronic mass cut	549885	(78.8%)
after reco T & W mass cut	516152	(74.0%)

Small Detector

nEvents	732456	(100.%)
after lepton cuts	677523	(92.5%)
after btag cuts (0.8 & 0.3)	604902	(82.6%)
after thrust cut	604902	(82.6%)
after hadronic mass cut	584523	(79.8%)
after reco T & W mass cut	548214	(74.8%)