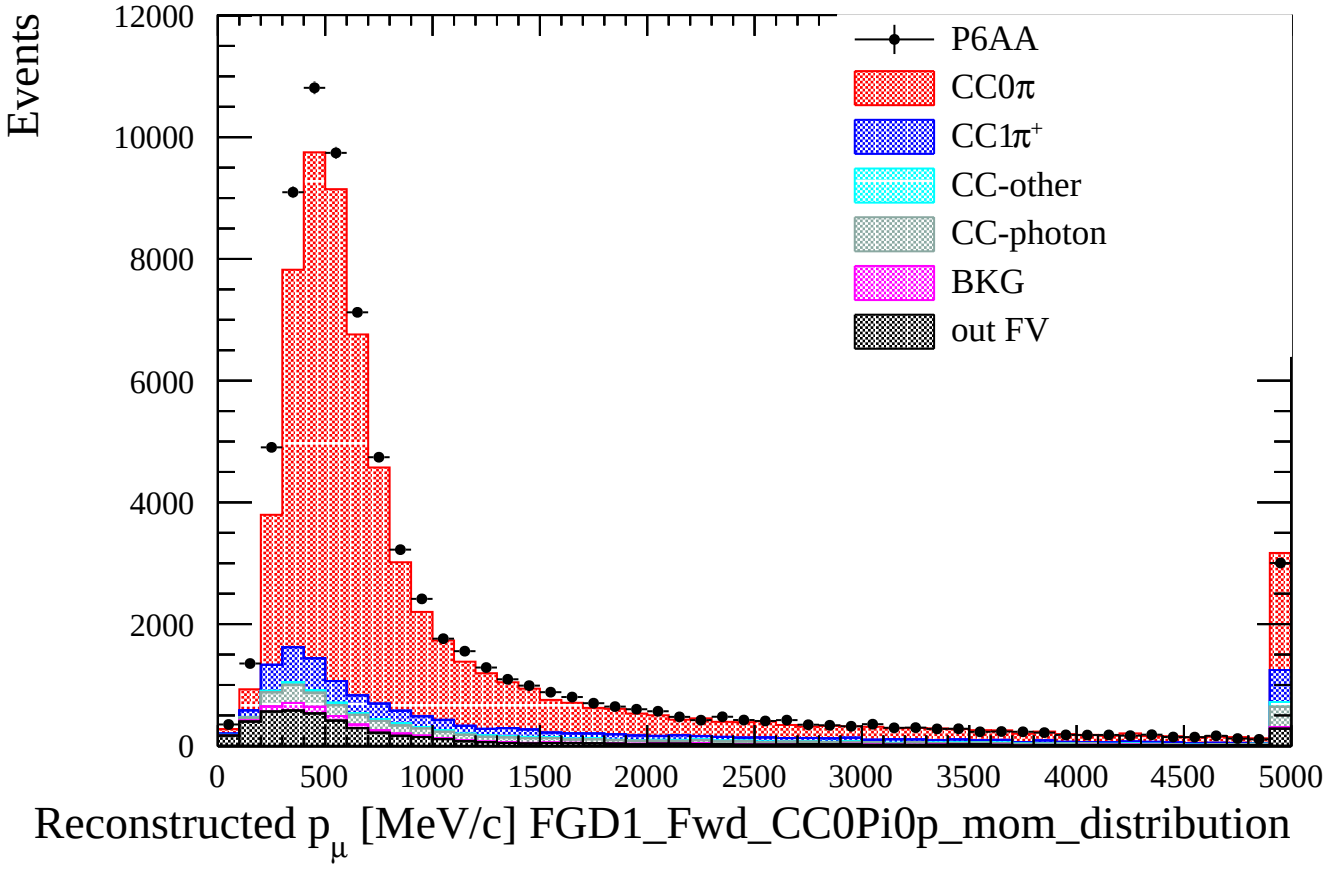
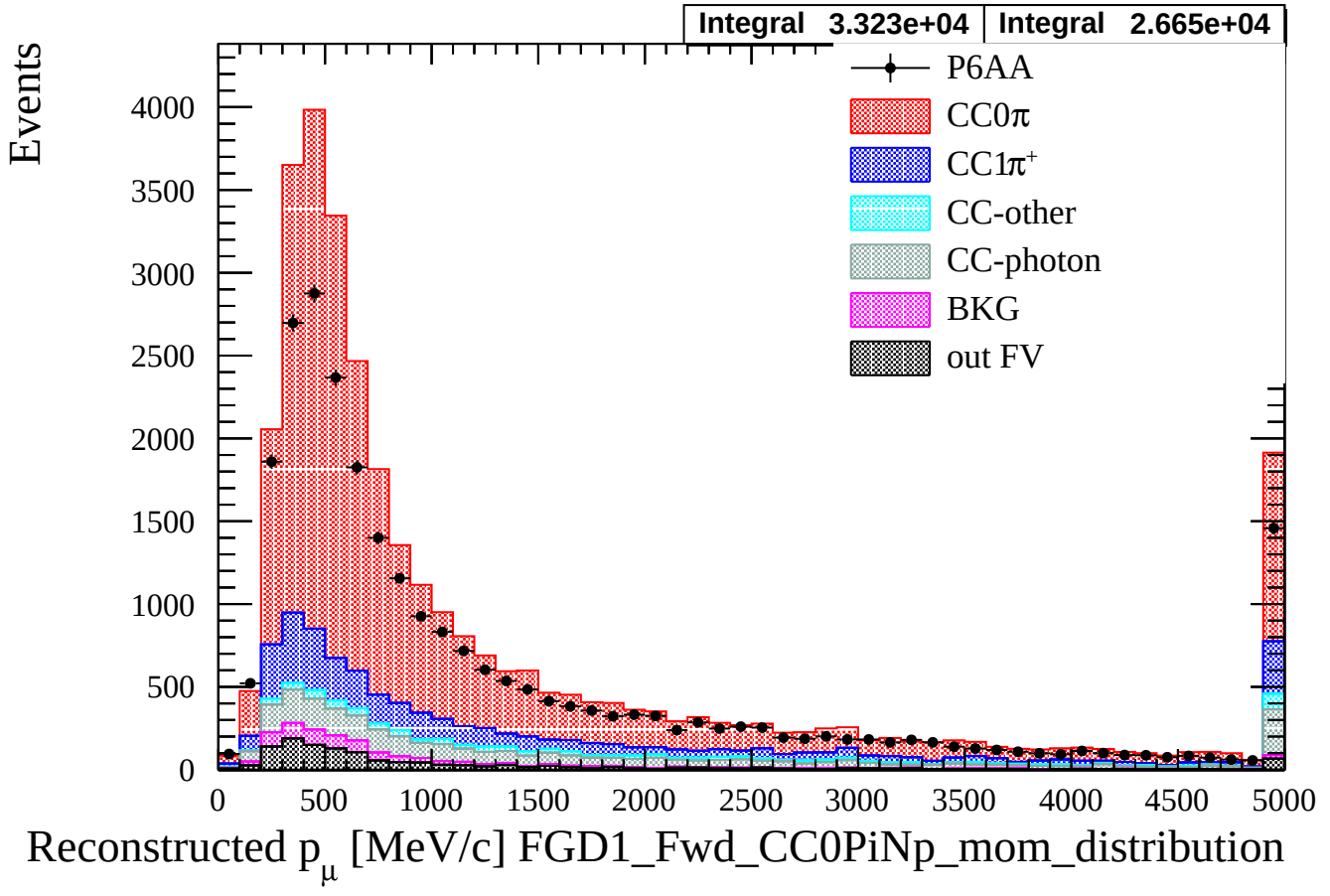
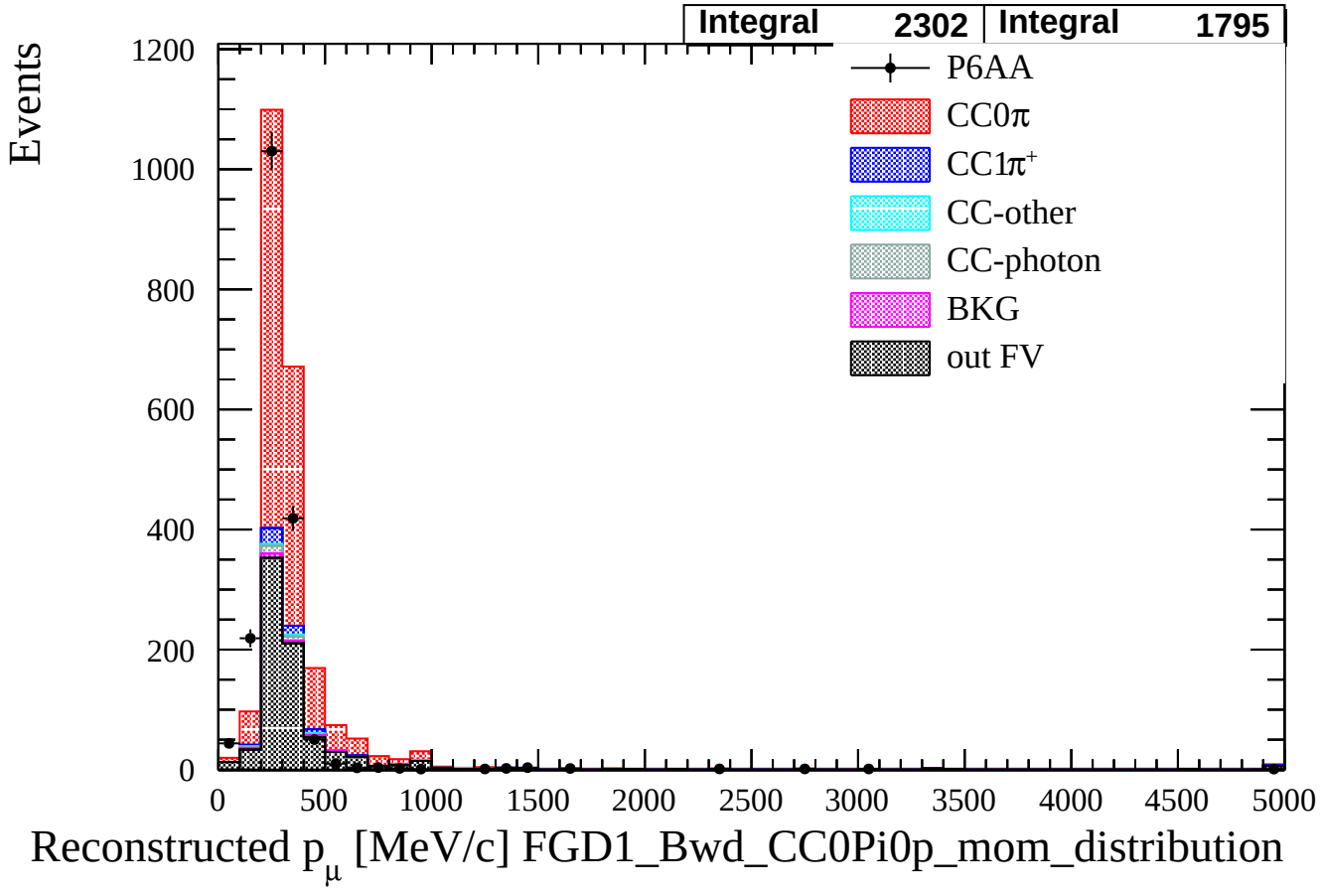
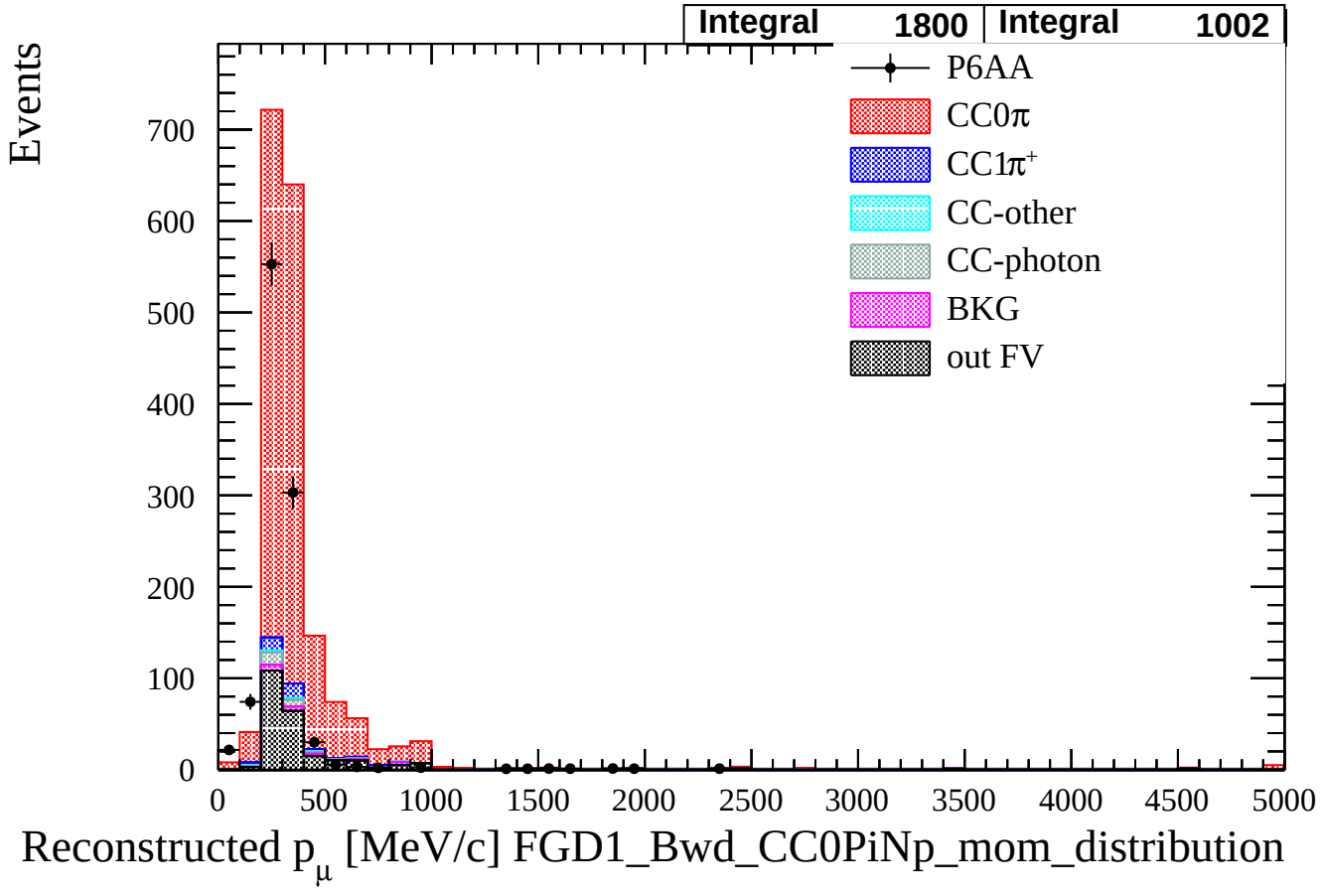
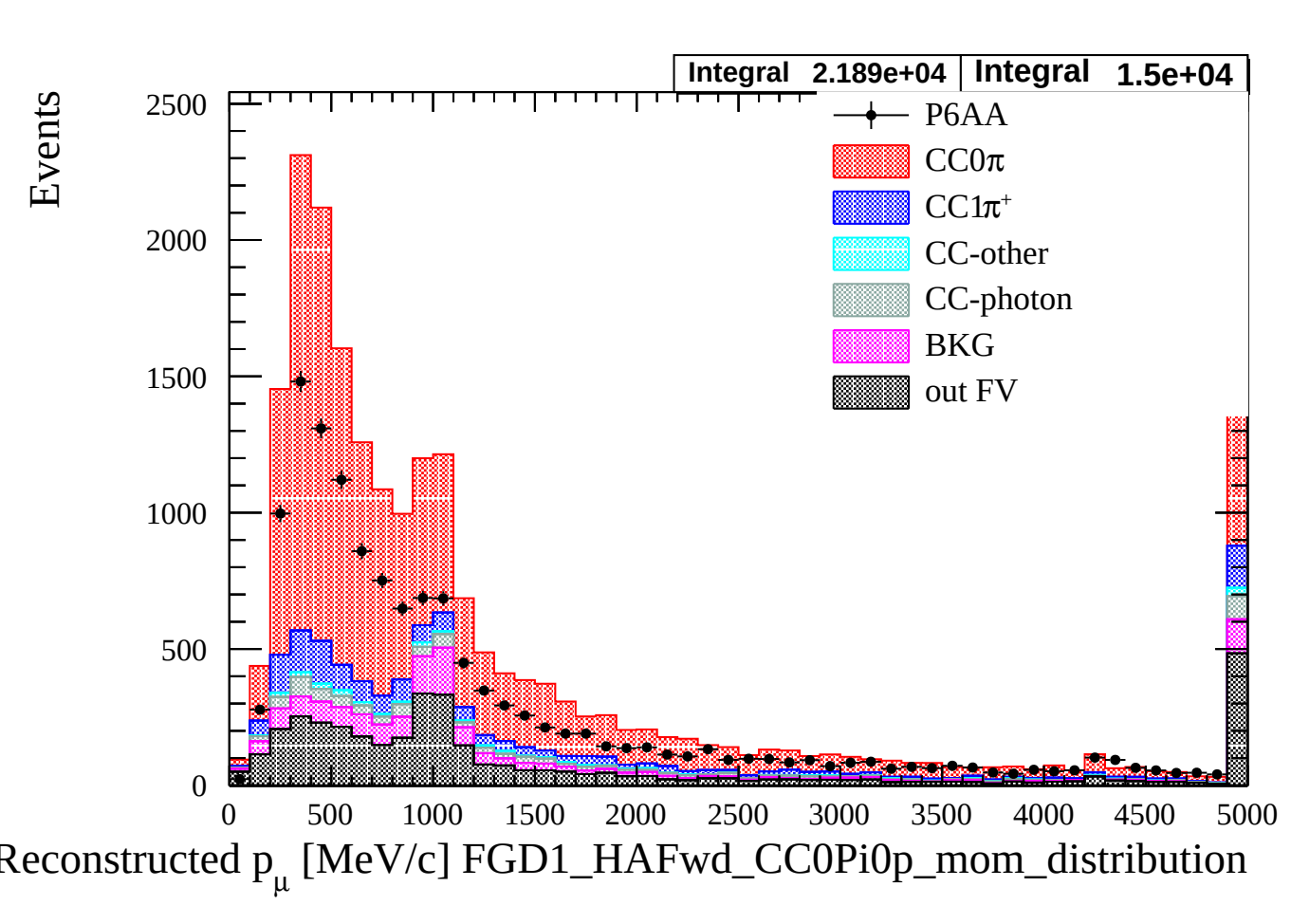
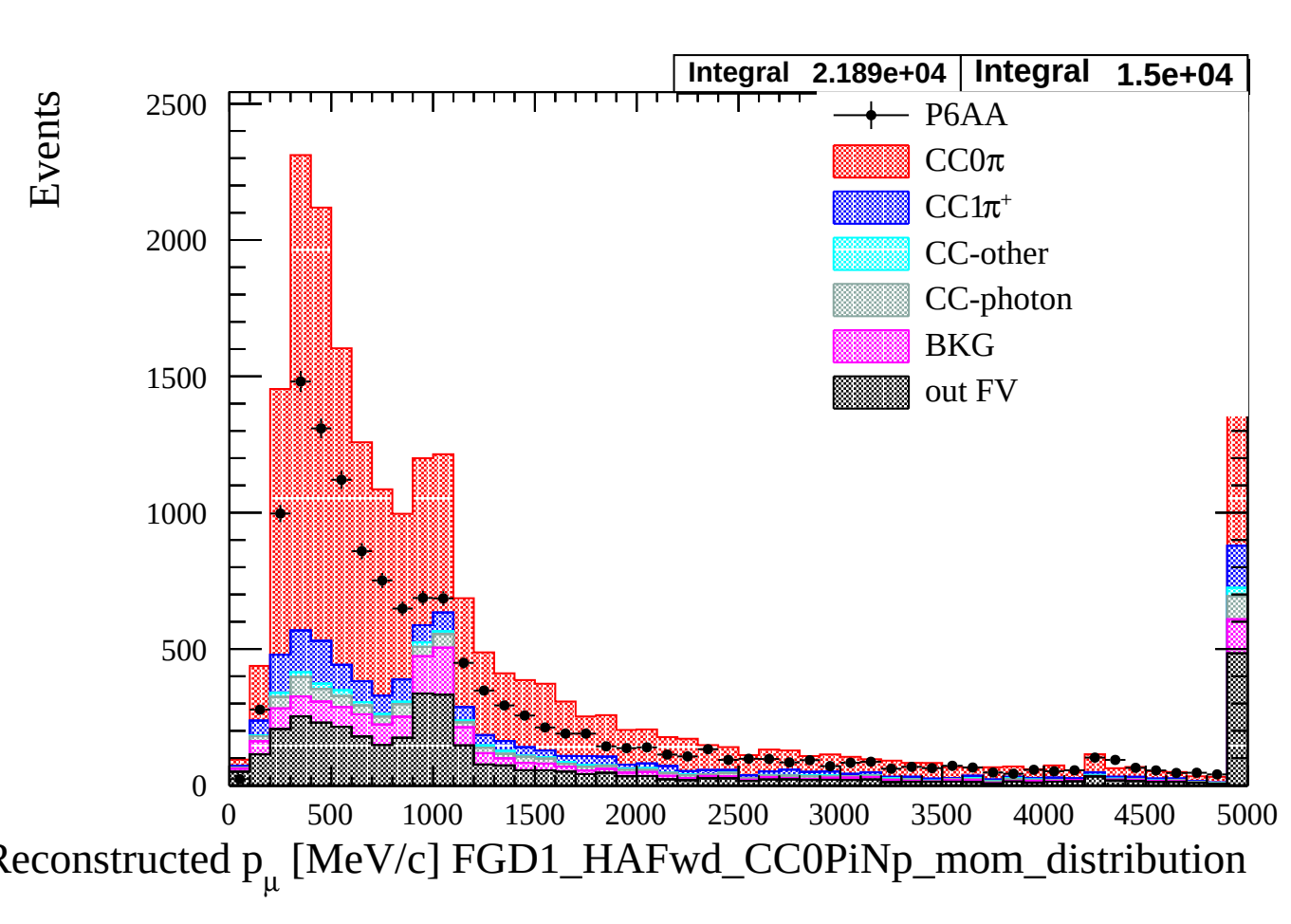

Events
12000
10000
8000
6000
4000
2000
0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Reconstructed pμ [MeV/c] FGD1_Fwd_CC0Pi0p_mom_distribution

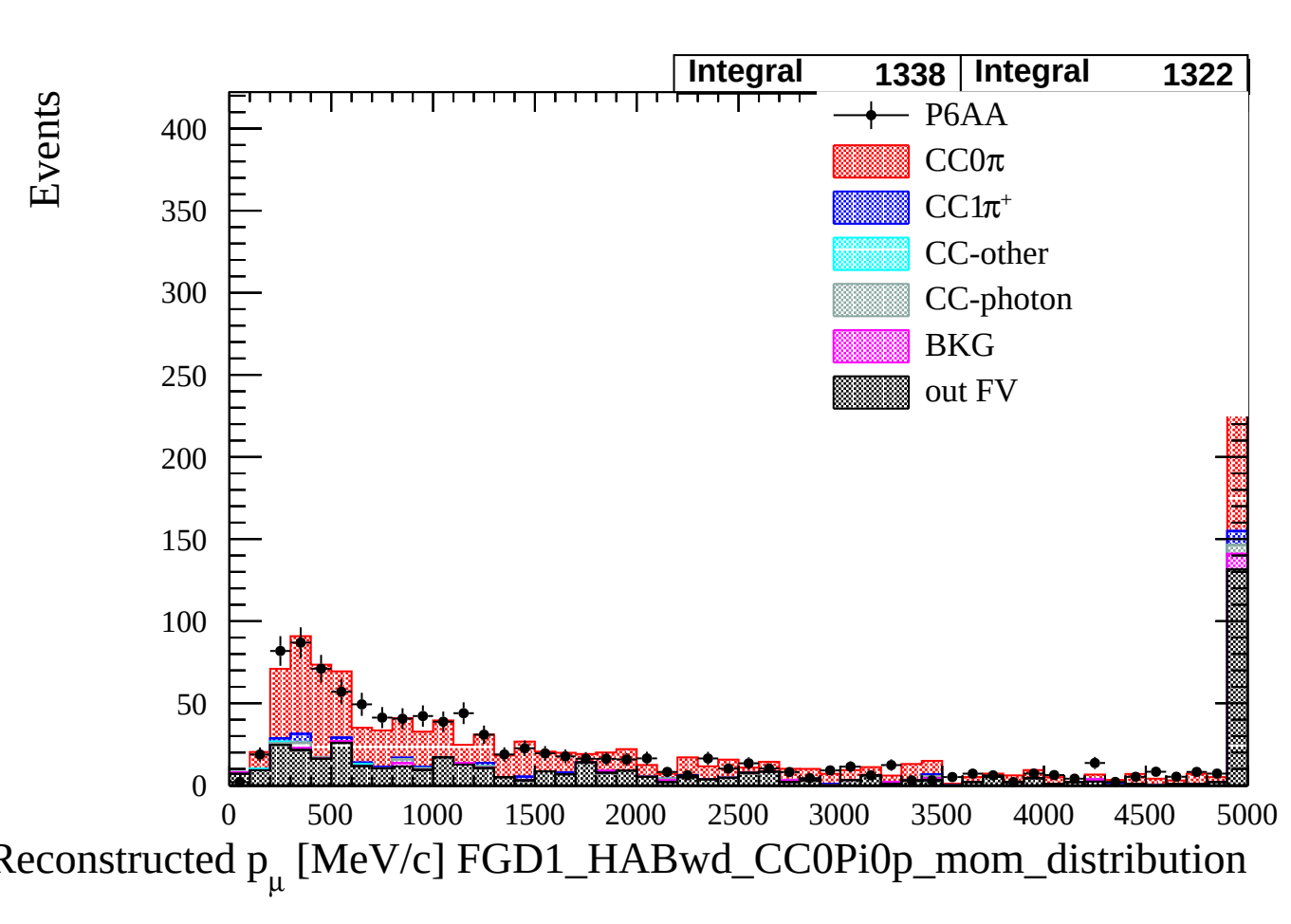

Integral 3.323e+04
Integral 2.665e+04
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
Reconstructed pμ [MeV/c] FGD1_Fwd_CC0PiNp_mom_distribution

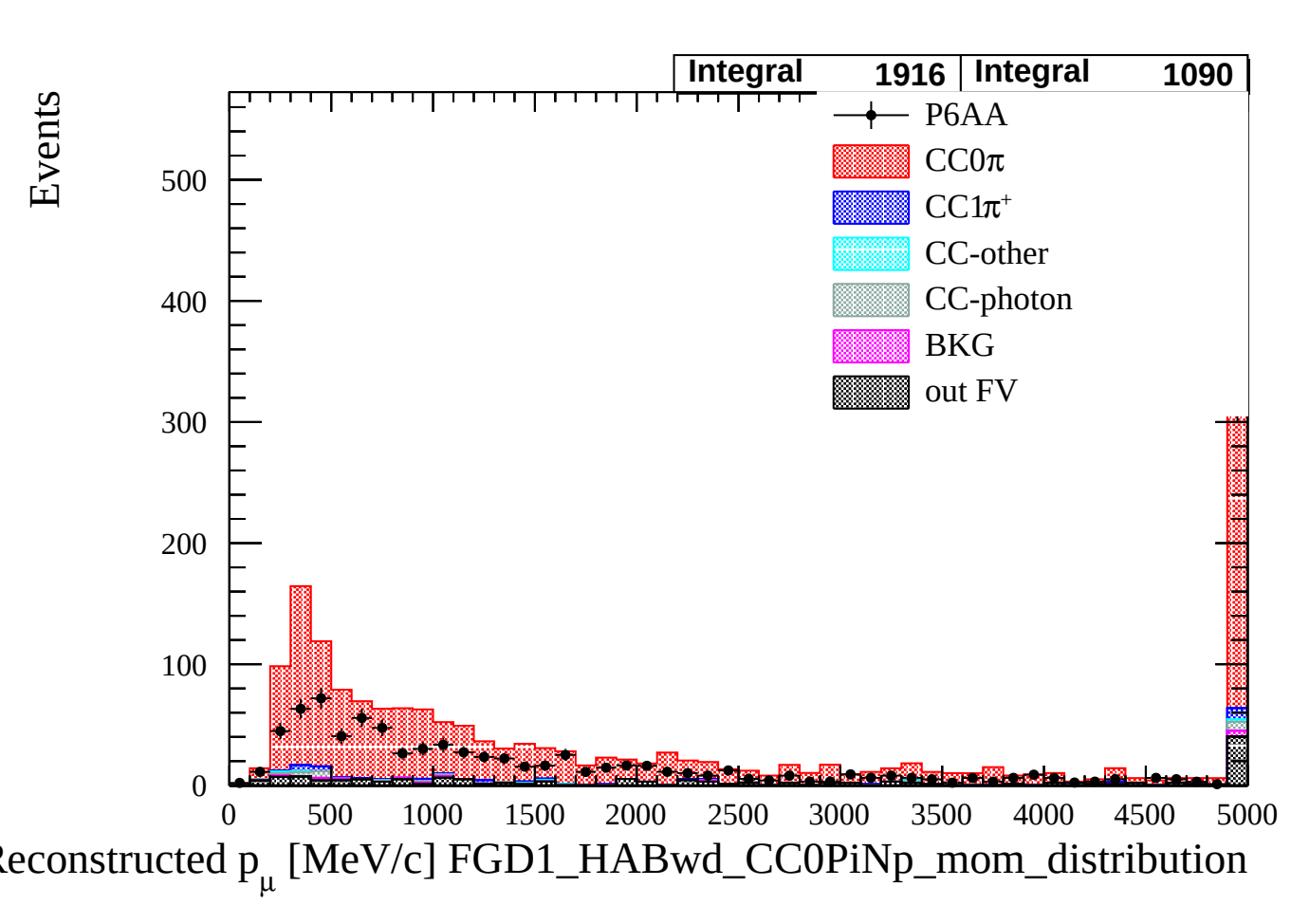

Integral 2302
Integral 1795
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
1200
1000
800
600
400
200
0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
Reconstructed p_μ [MeV/c] FGD1_Bwd_CC0Pi0p_mom_distribution

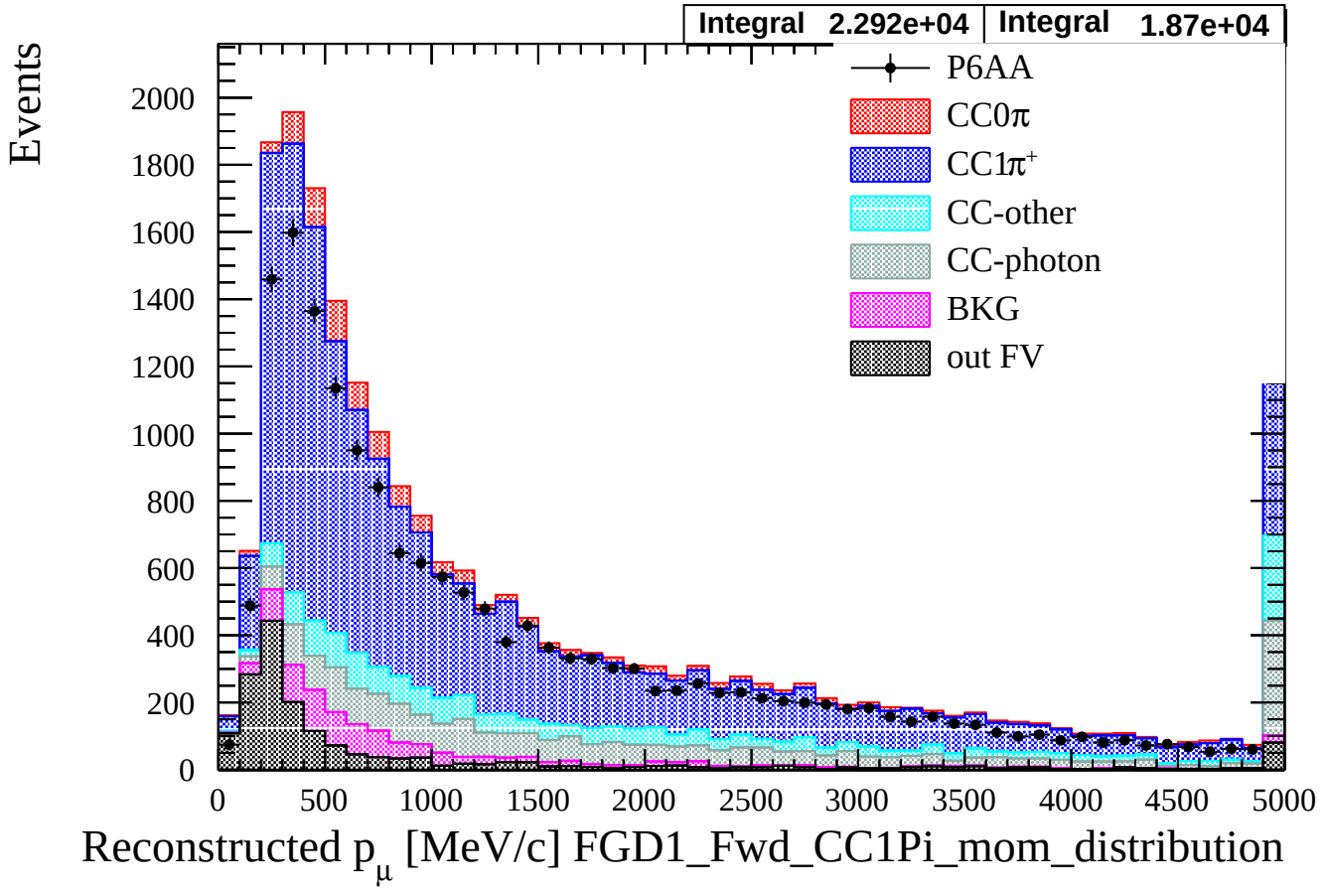

Integral 1800
Integral 1002
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
0
100
200
300
400
500
600
700
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
Reconstructed p_μ [MeV/c] FGD1_Bwd_CC0PiNp_mom_distribution

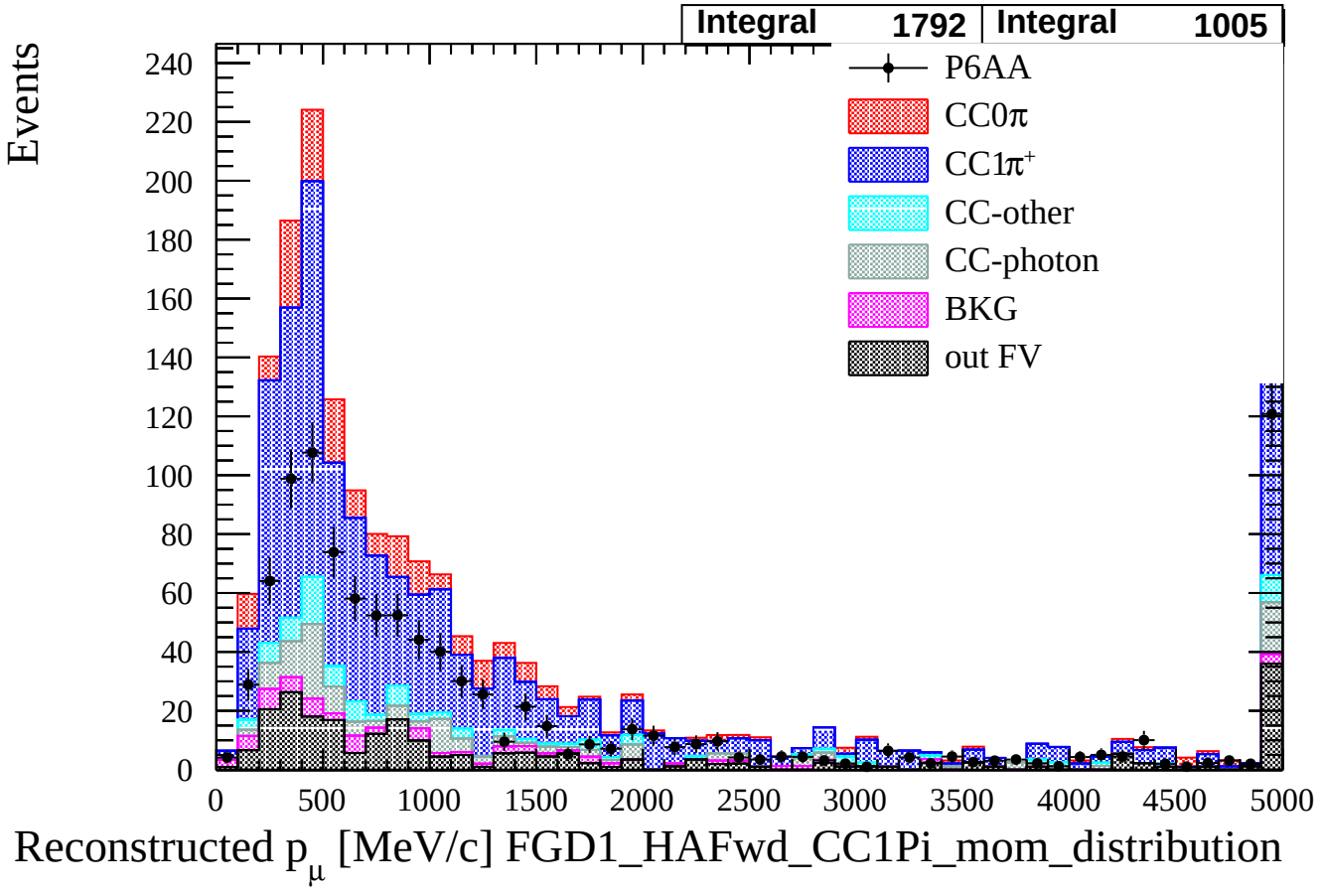

Integral 2.189e+04
Integral 1.5e+04
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
Reconstructed p_μ [MeV/c] FGD1_HAFwd_CC0Pi0p_mom_distribution

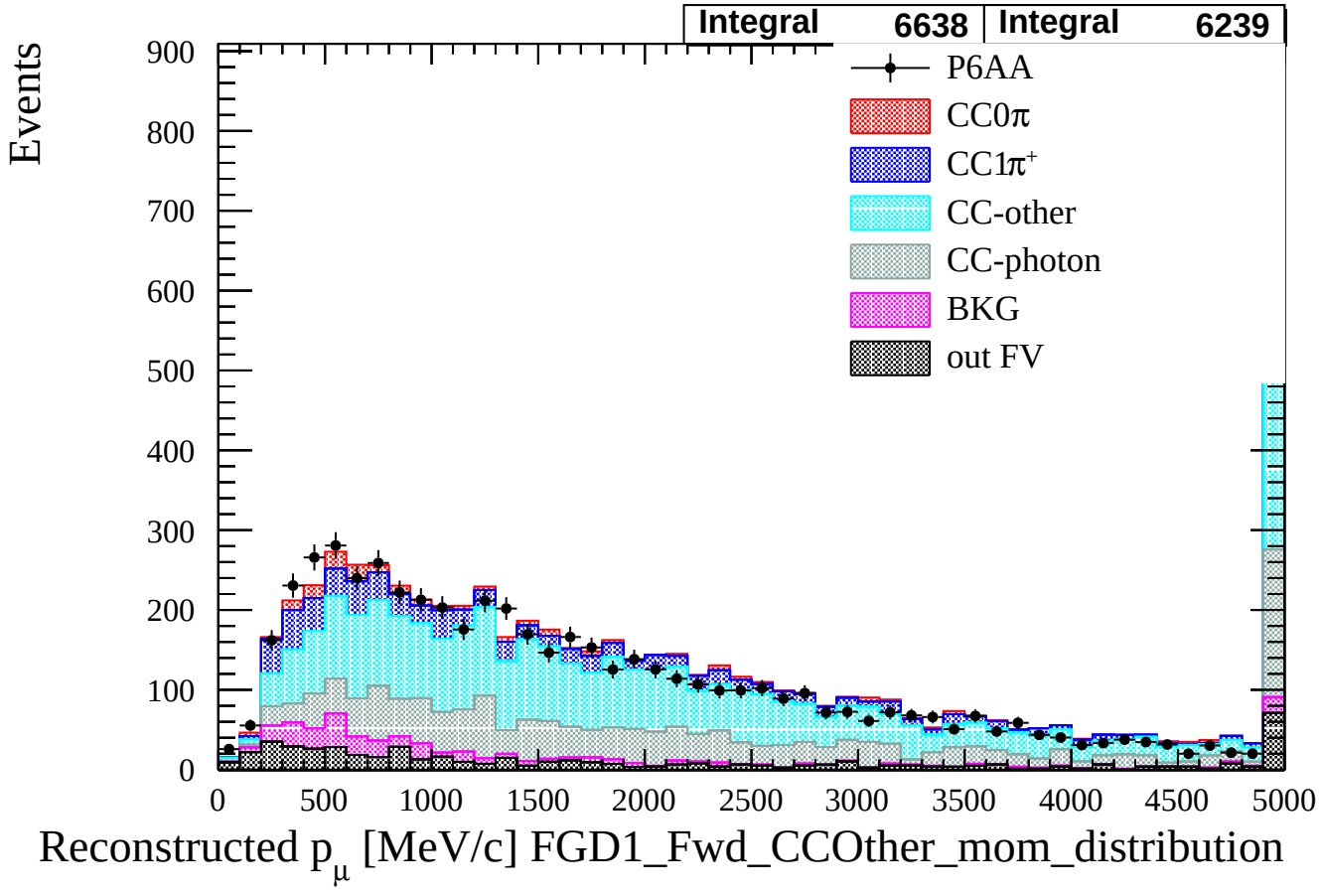

Integral 2.189e+04
Integral 1.5e+04
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
Reconstructed pμ [MeV/c] FGD1_HAFwd_CC0PiNp_mom_distribution

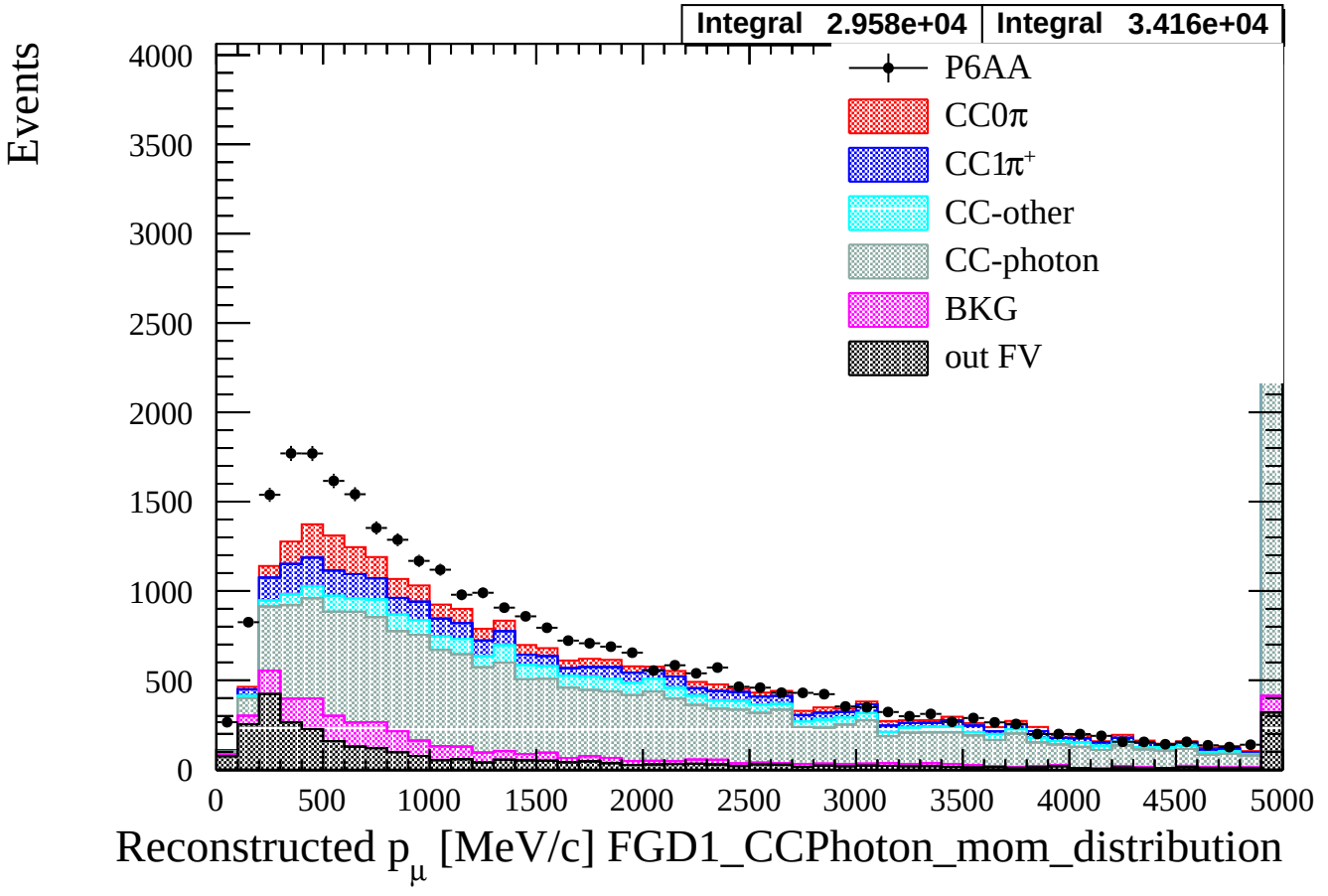

Integral 1338
Integral 1322
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
0
50
100
150
200
250
300
350
400
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
Reconstructed p_μ [MeV/c] FGD1_HABwd_CC0Pi0p_mom_distribution

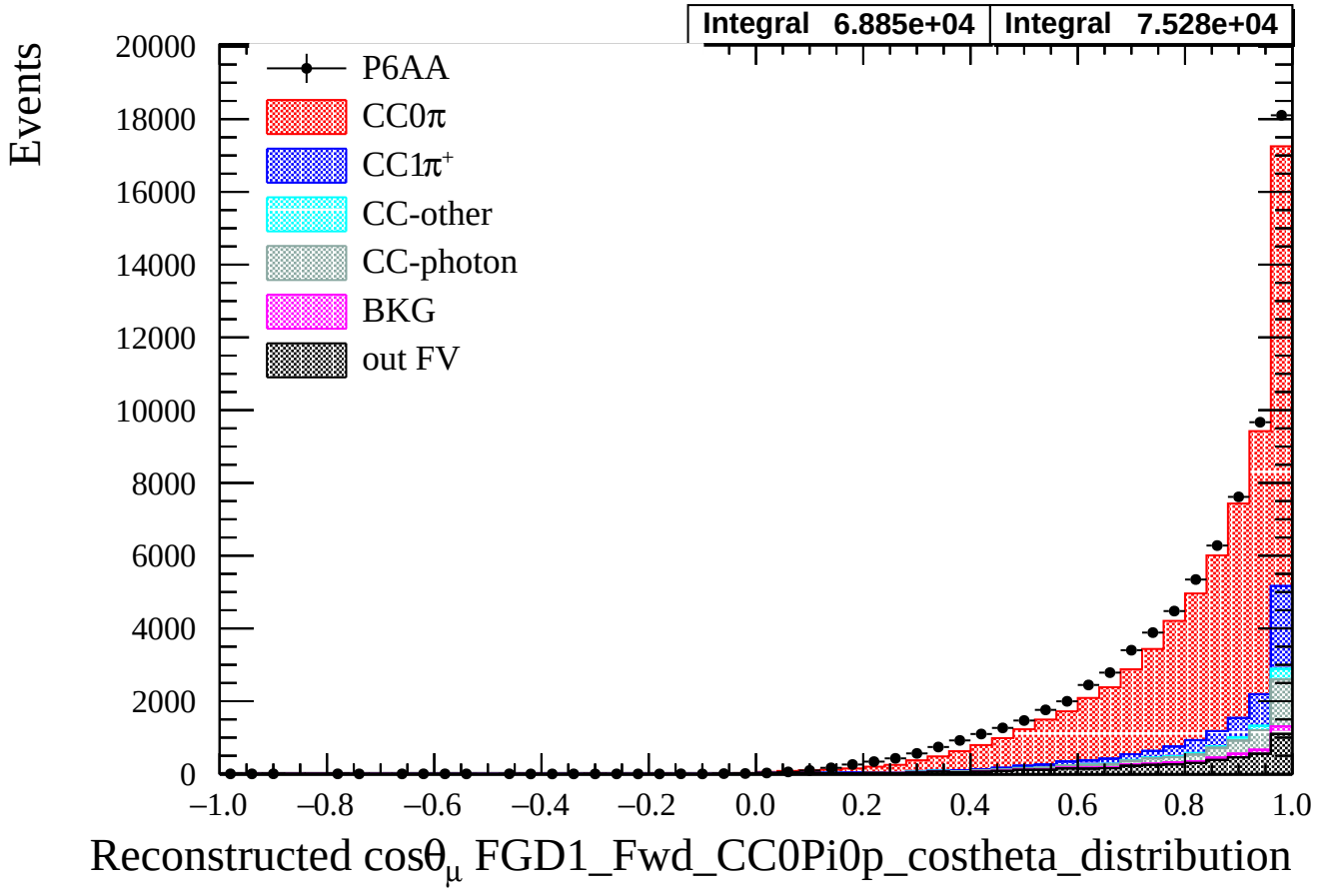

Integral 1916
Integral 1090
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
0
100
200
300
400
500
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
Reconstructed pμ [MeV/c] FGD1_HABwd_CC0PiNp_mom_distribution

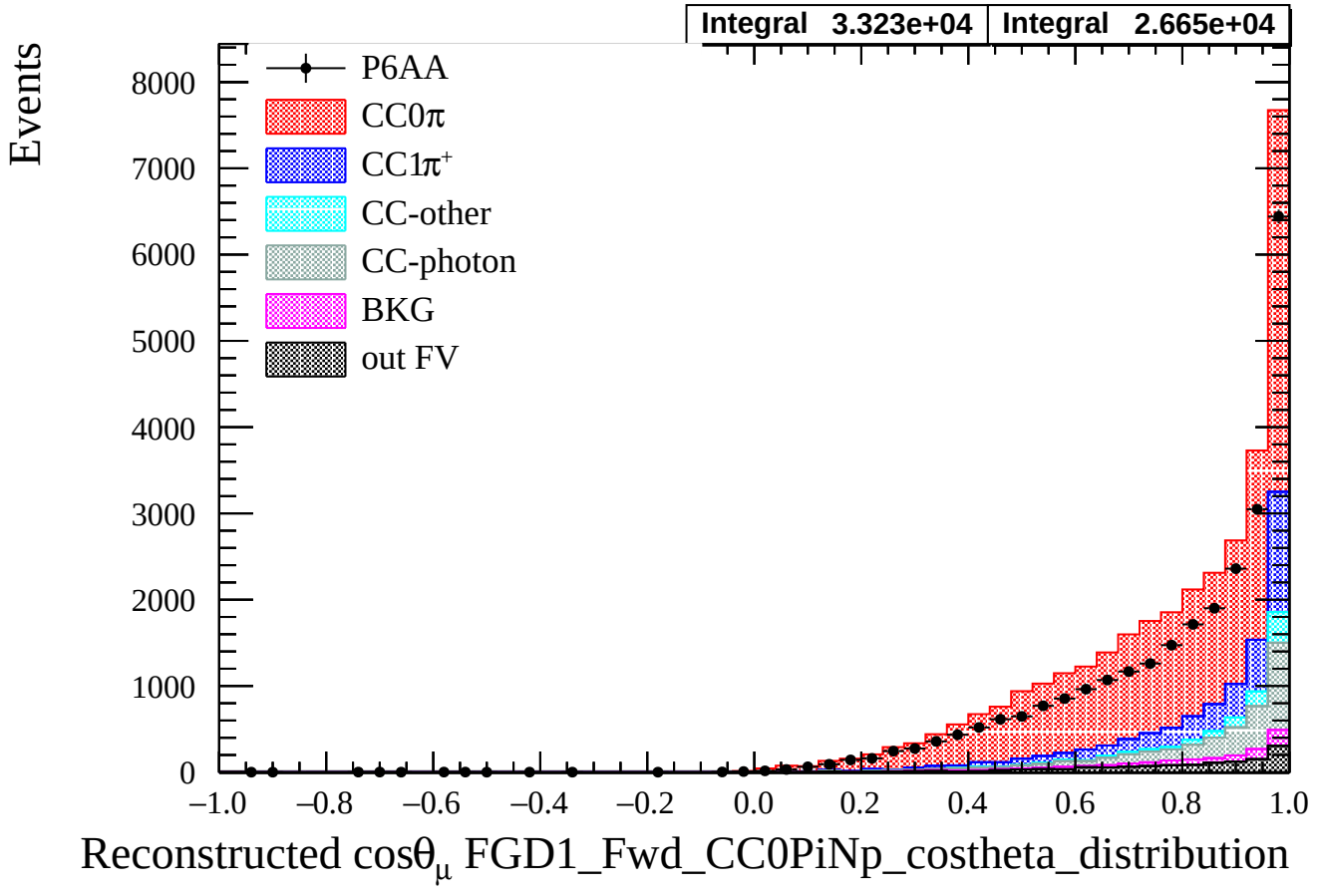

Integral 2.292e+04
Integral 1.87e+04
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
0
200
400
600
800
1000
1200
1400
1600
1800
2000
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
Reconstructed p_μ [MeV/c] FGD1_Fwd_CC1Pi_mom_distribution

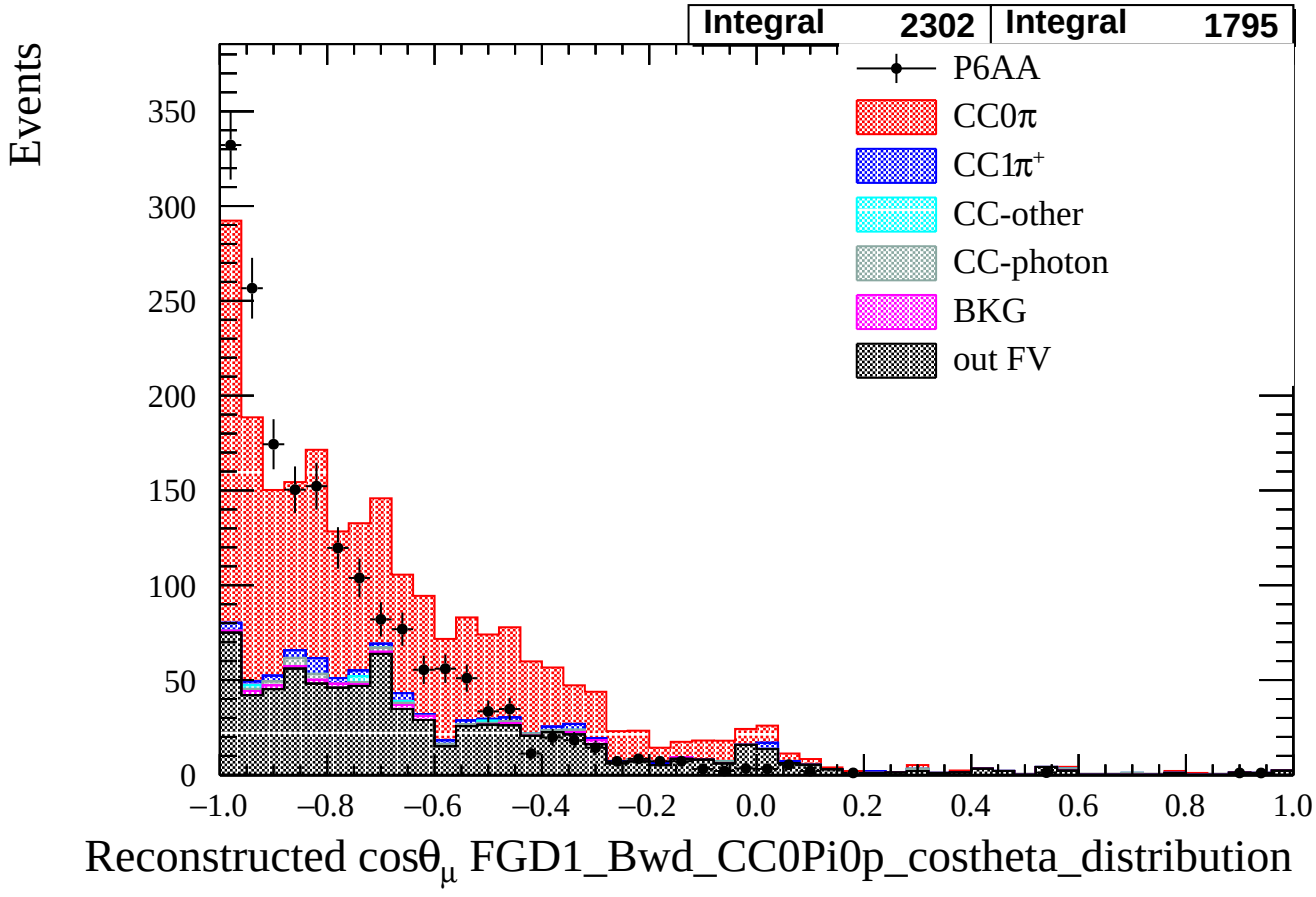

Integral 1792
Integral 1005
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
Reconstructed pμ [MeV/c] FGD1_HAFwd_CC1Pi_mom_distribution
0
20
40
60
80
100
120
140
160
180
200
220
240
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000

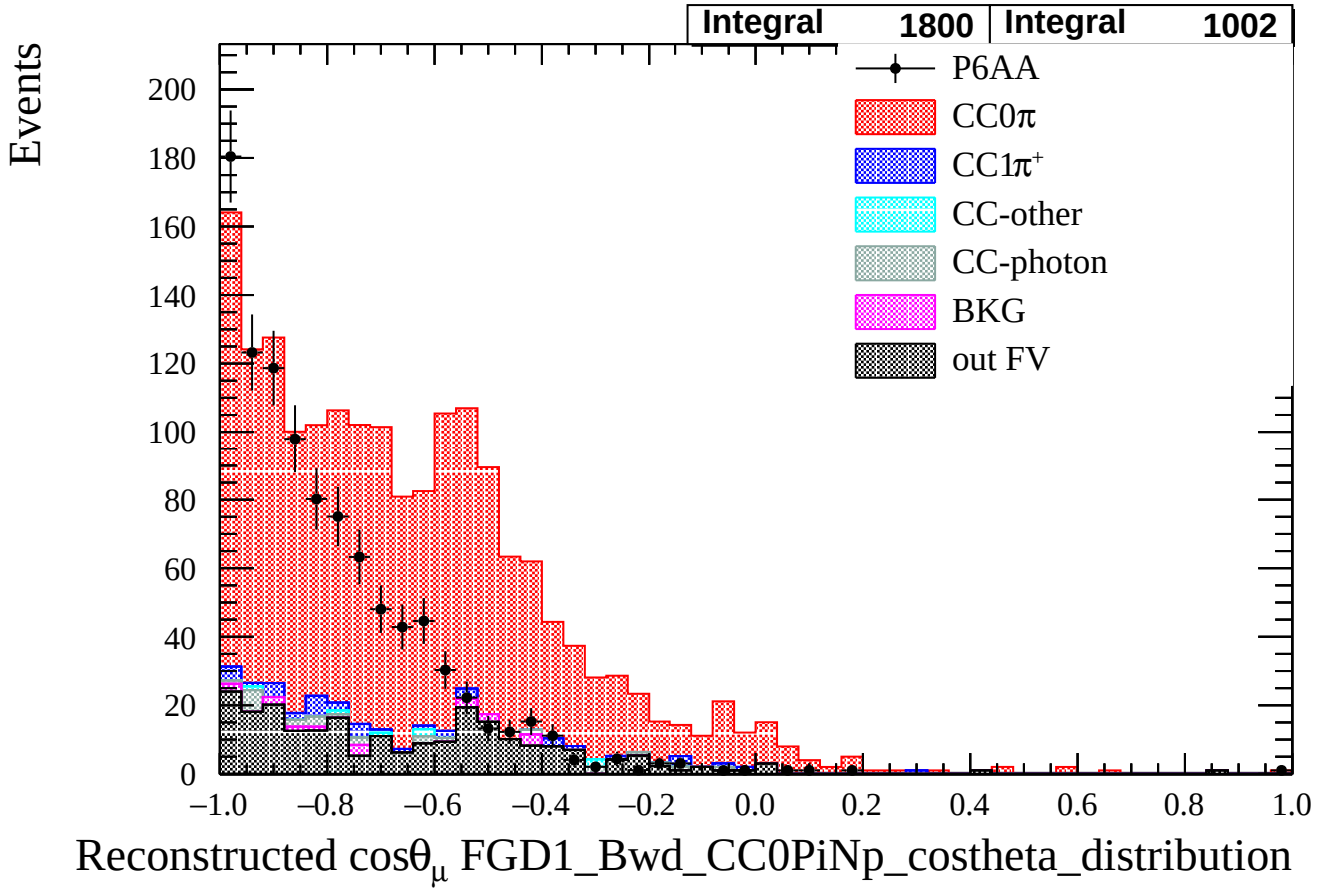

Integral 6638
Integral 6239
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
0
100
200
300
400
500
600
700
800
900
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
Reconstructed p_μ [MeV/c] FGD1_Fwd_CCOther_mom_distribution

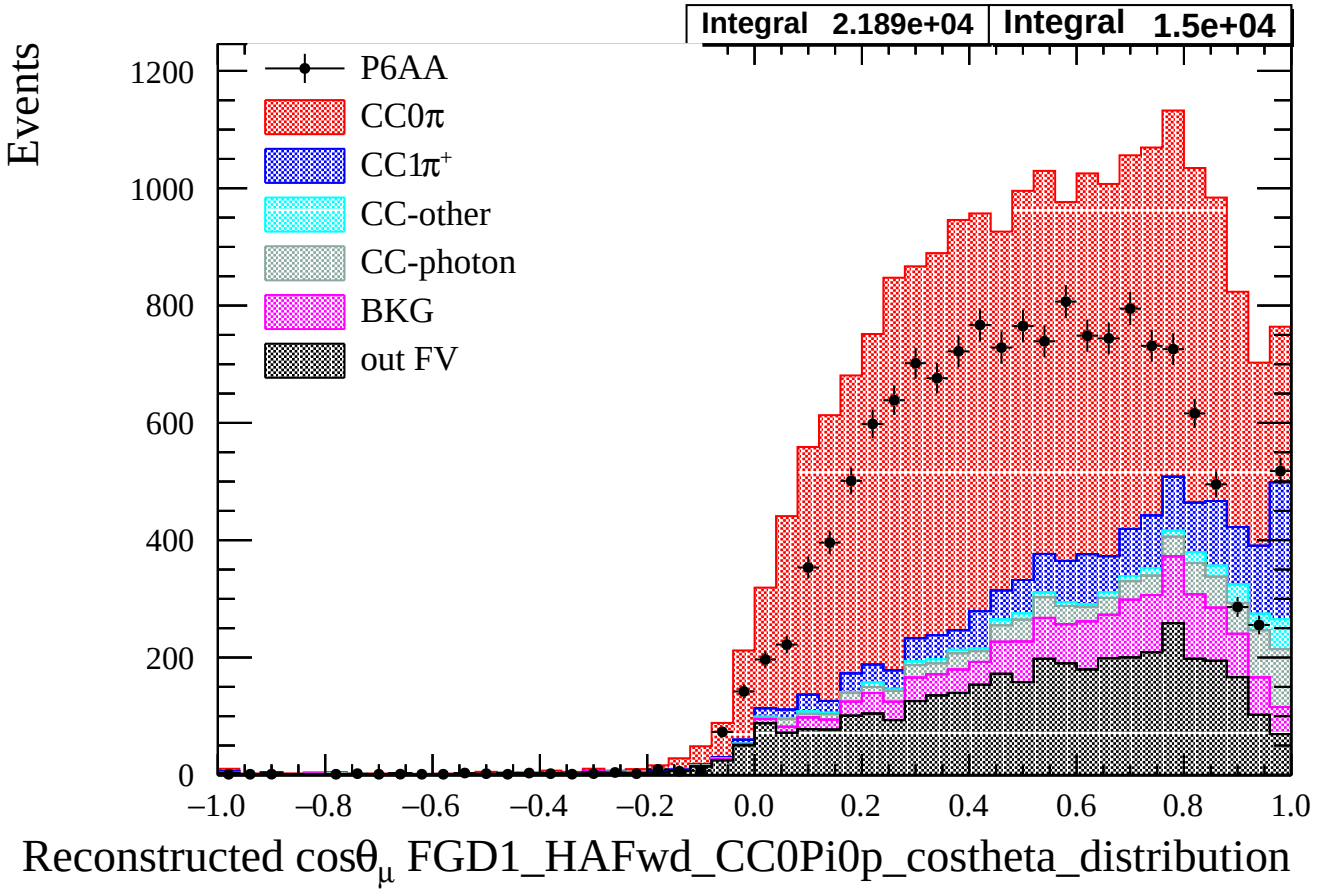

Integral 2.958e+04
Integral 3.416e+04
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
Reconstructed pμ [MeV/c] FGD1_CCPhoton_mom_distribution
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000

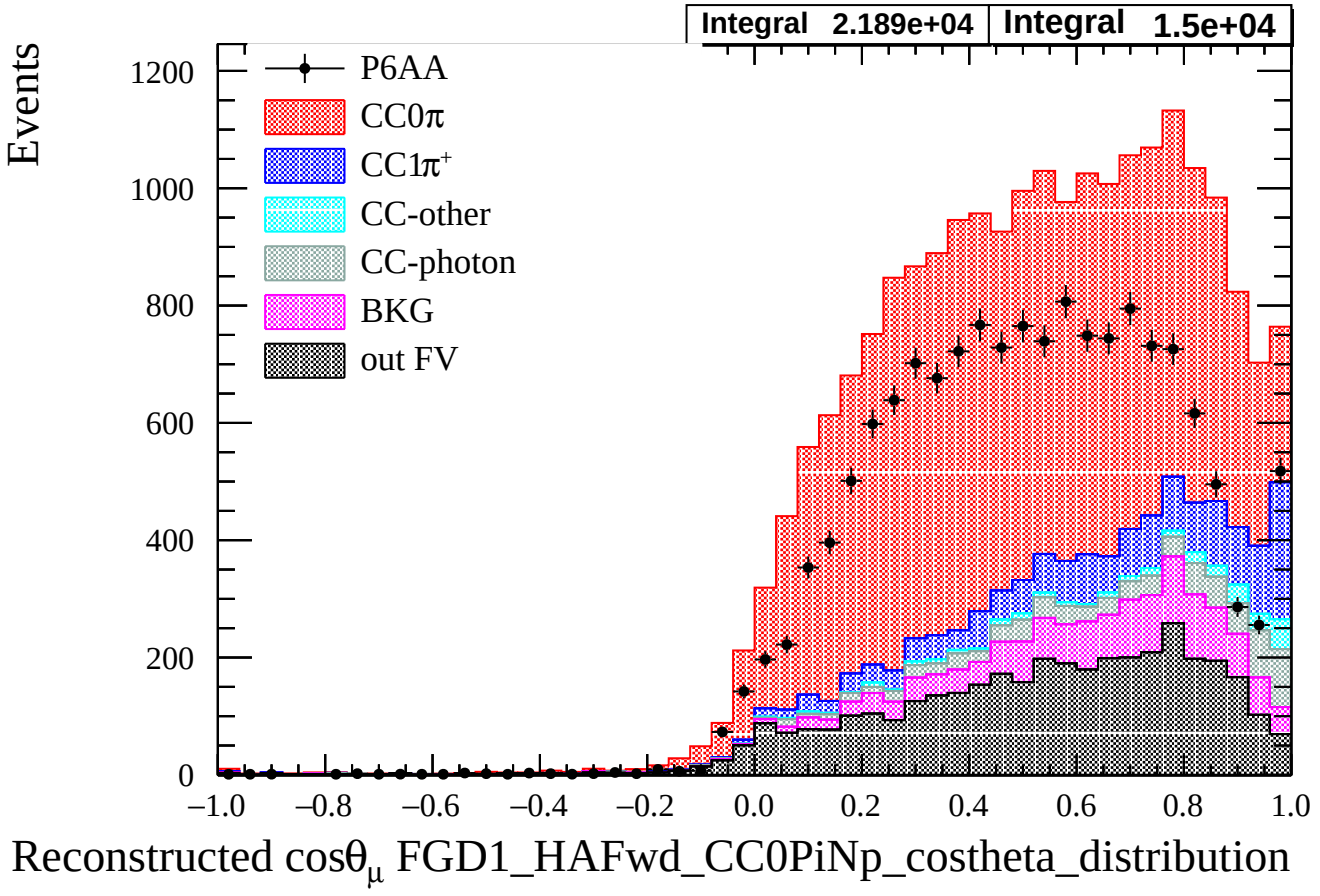

Integral 6.885e+04
Integral 7.528e+04
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
0.4
0.6
0.8
1.0
Reconstructed cosθμ FGD1_Fwd_CC0Pi0p_costheta_distribution

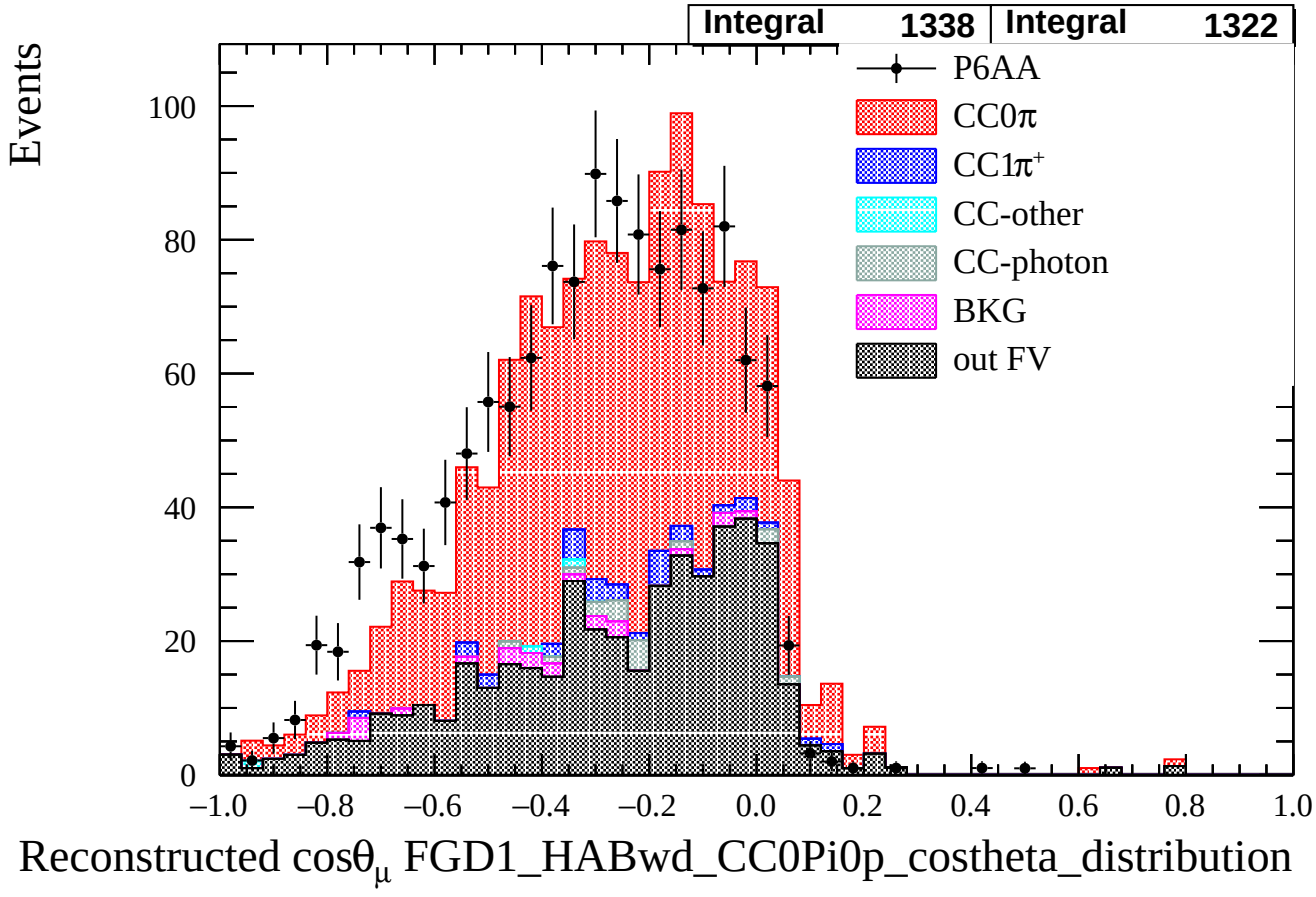

Integral 3.323e+04
Integral 2.665e+04
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
8000
7000
6000
5000
4000
3000
2000
1000
0
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
0.4
0.6
0.8
1.0
Reconstructed cosθμ FGD1_Fwd_CC0PiNp_costheta_distribution

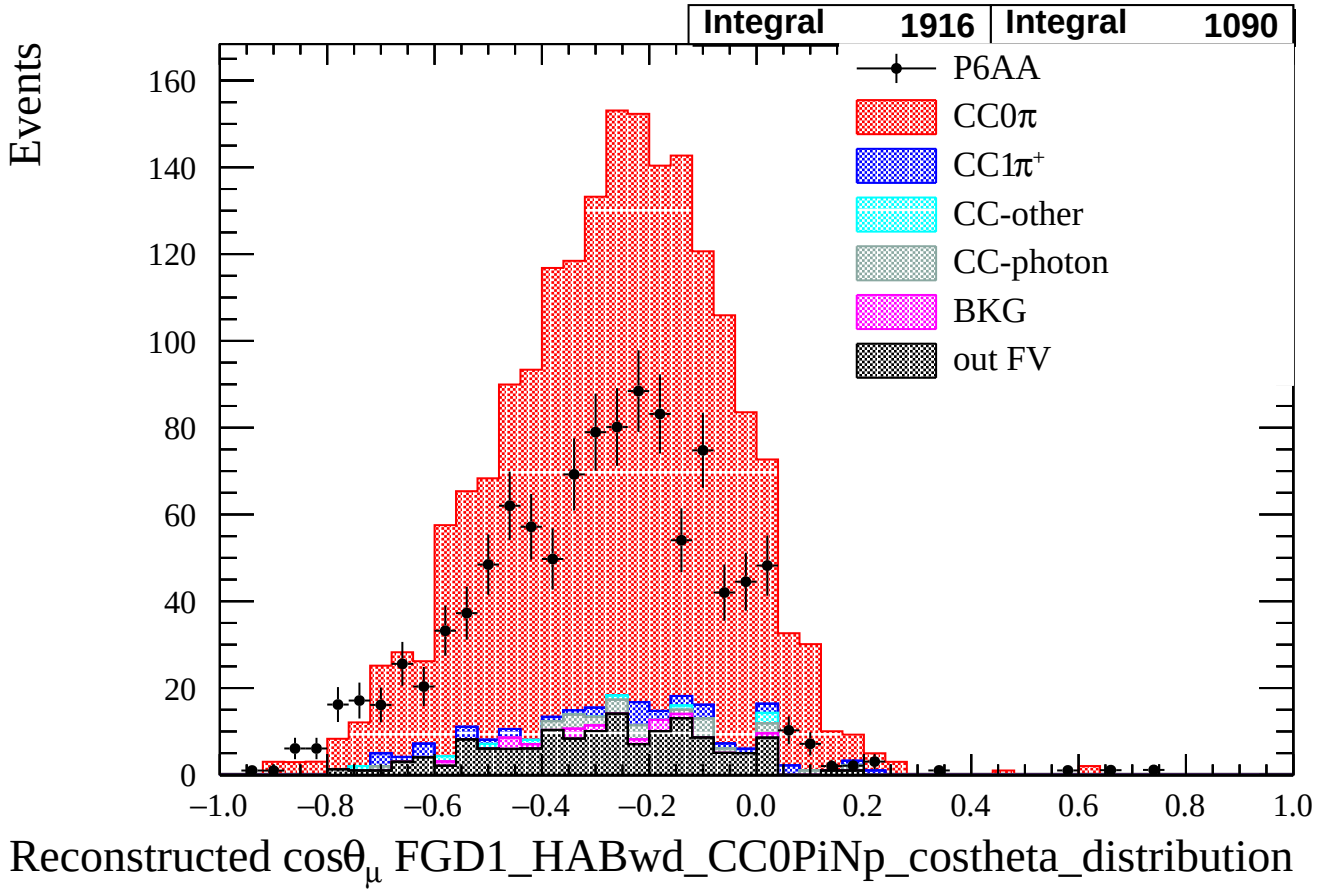

Integral 2302
Integral 1795
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
350
300
250
200
150
100
50
0
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
0.4
0.6
0.8
1.0
Reconstructed cosθμ FGD1_Bwd_CC0Pi0p_costheta_distribution

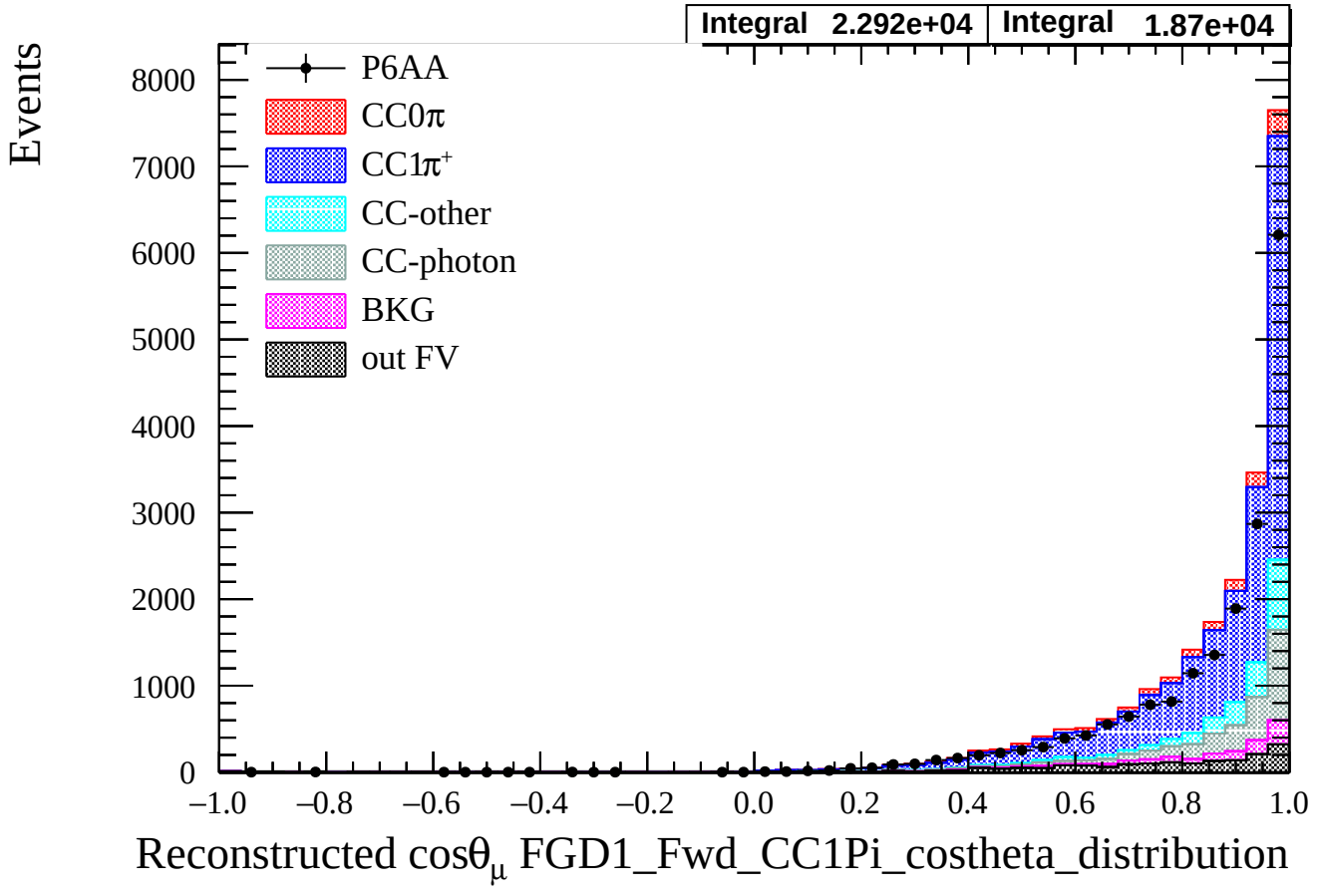

Integral 1800
Integral 1002
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
200
180
160
140
120
100
80
60
40
20
0
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
0.4
0.6
0.8
1.0
Reconstructed cosθμ FGD1_Bwd_CC0PiNp_costheta_distribution

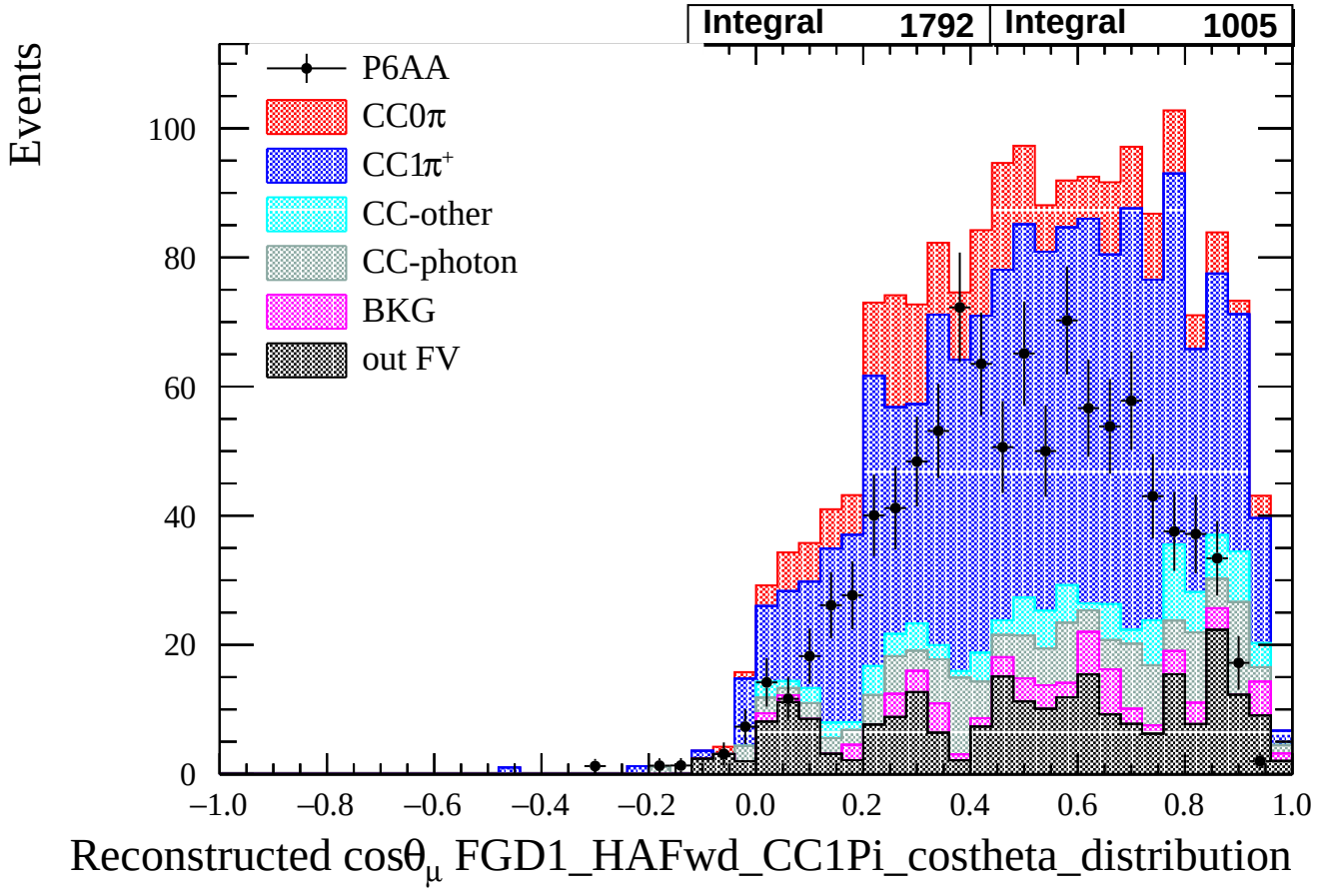

Integral 2.189e+04
Integral 1.5e+04
P6AA
CC0π
CC1π⁺
CC-other
CC-photon
BKG
out FV
Events
1200
1000
800
600
400
200
0
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
0.4
0.6
0.8
1.0
Reconstructed cosθμ FGD1_HAFwd_CC0Pi0p_costheta_distribution

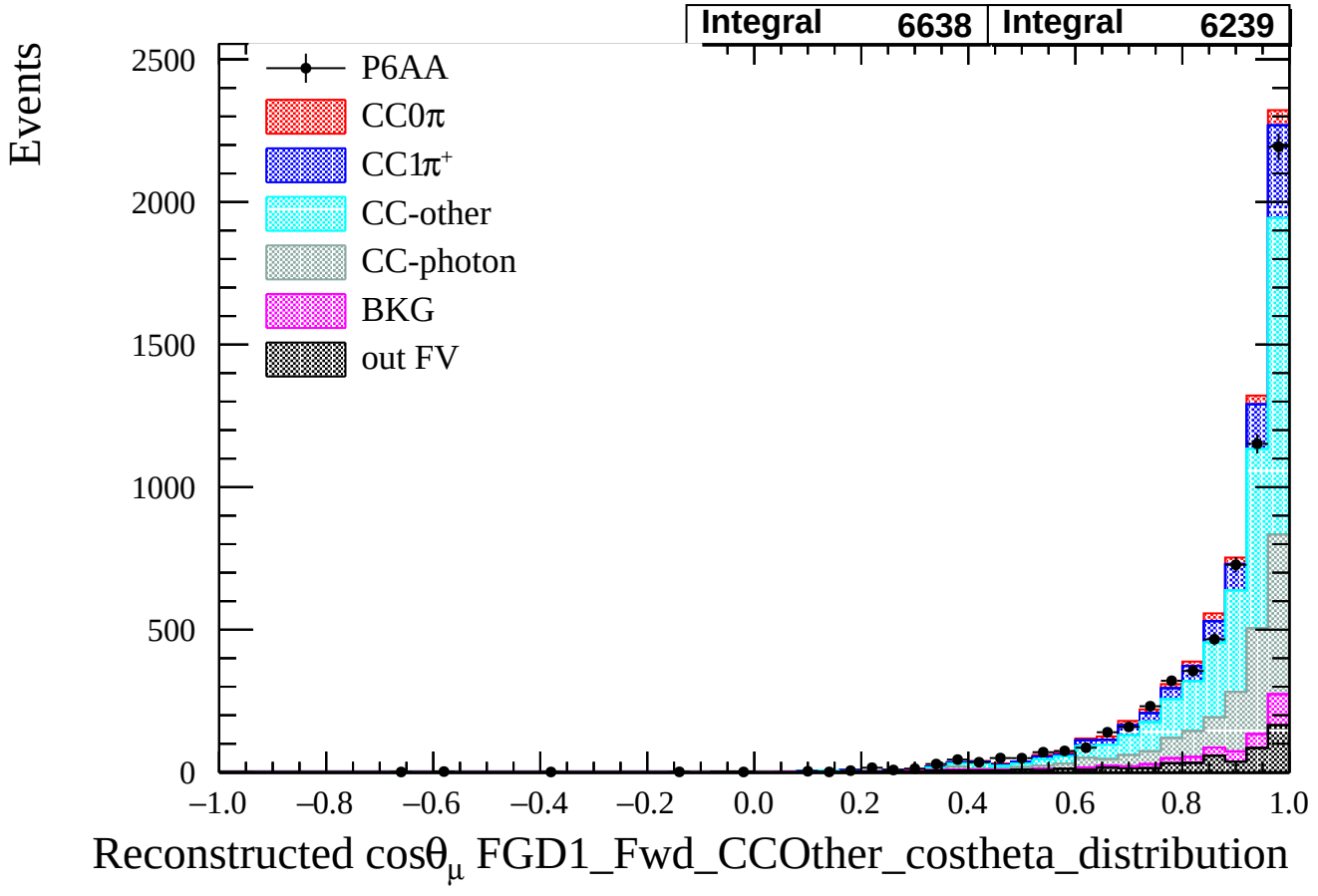

Integral 2.189e+04
Integral 1.5e+04
P6AA
CC0π
CC1π⁺
CC-other
CC-photon
BKG
out FV
Events
1200
1000
800
600
400
200
0
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
0.4
0.6
0.8
1.0
Reconstructed cosθμ FGD1_HAFwd_CC0PiNp_costheta_distribution

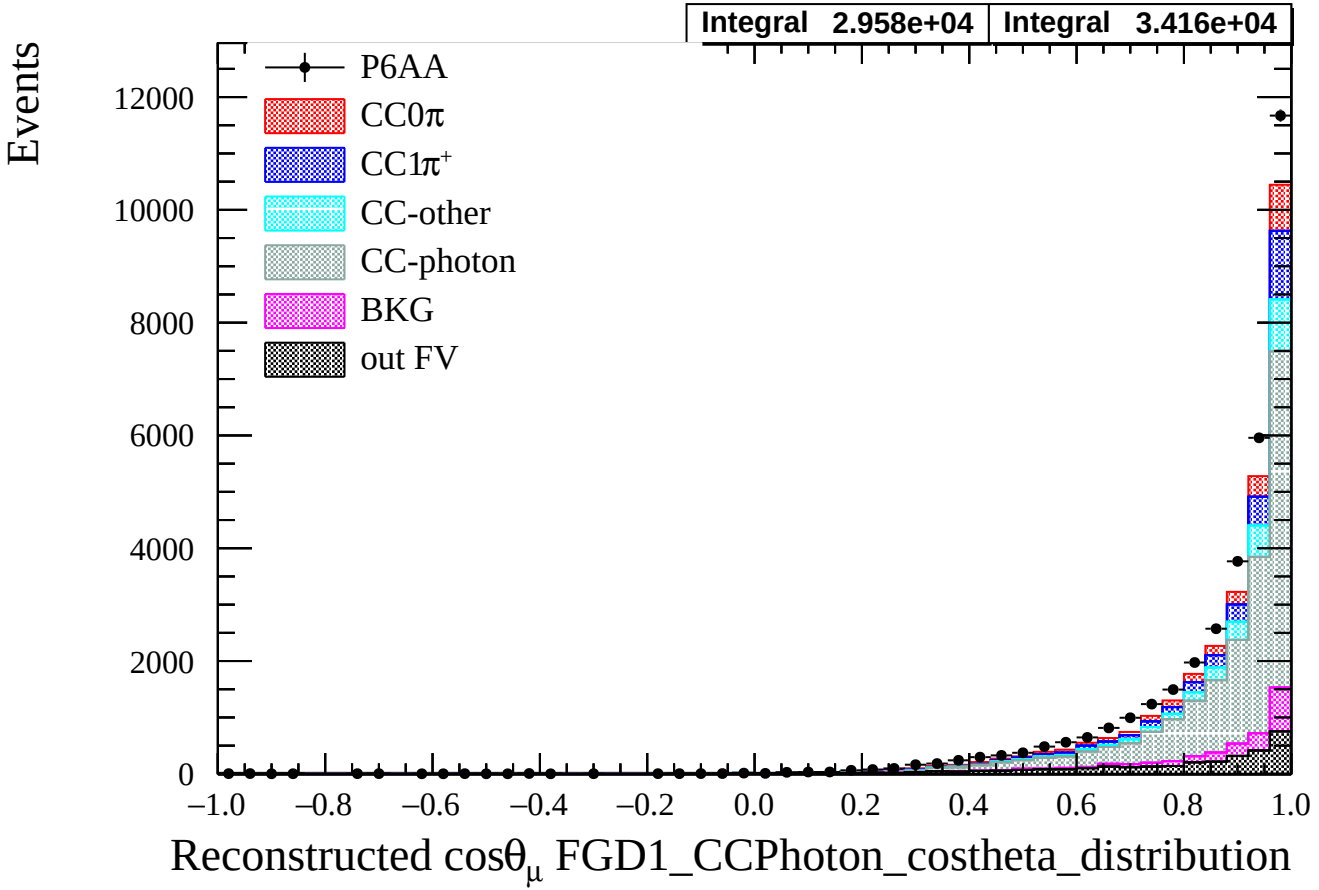

Integral 1338
Integral 1322
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
100
80
60
40
20
0
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
0.4
0.6
0.8
1.0
Reconstructed cosθμ FGD1_HABwd_CC0Pi0p_costheta_distribution

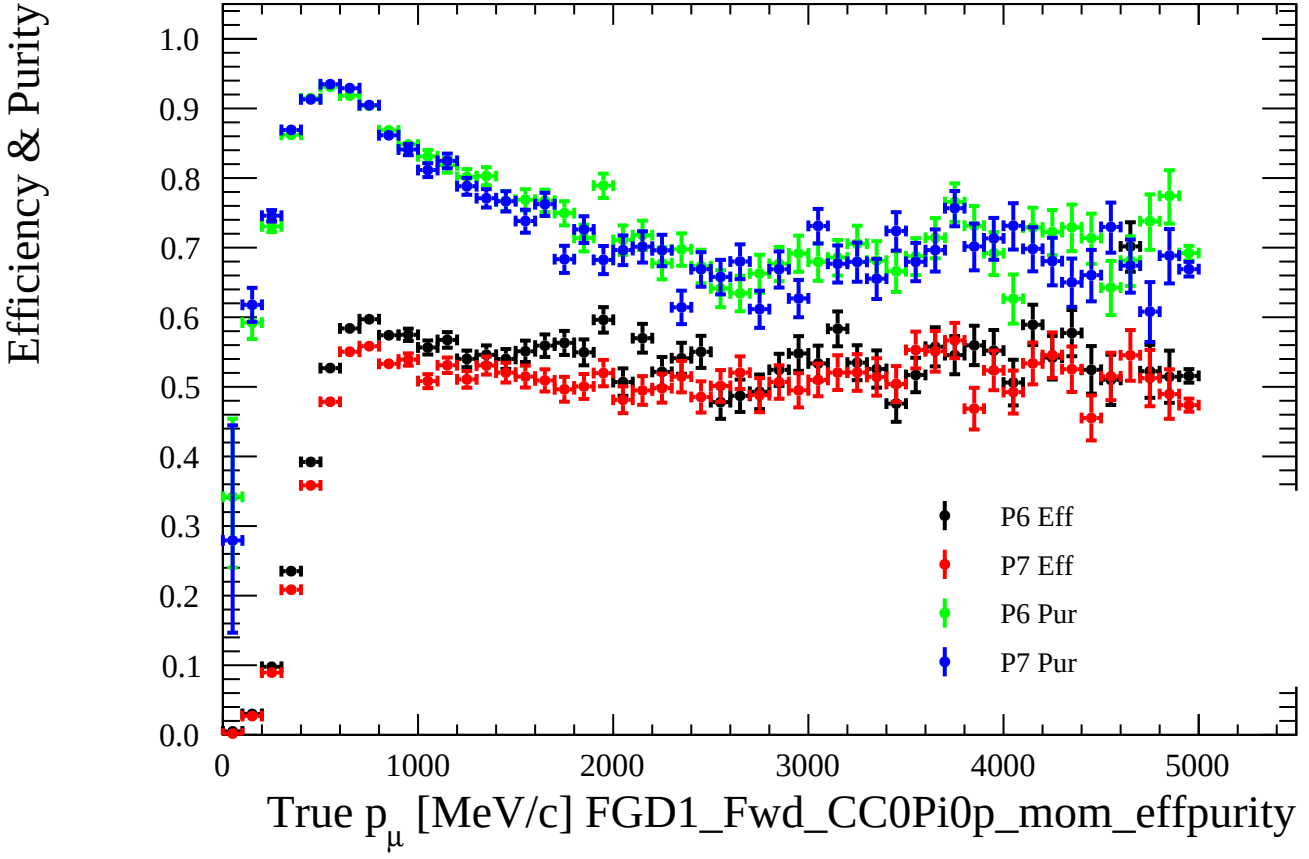

Integral 1916
Integral 1090
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
160
140
120
100
80
60
40
20
0
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
0.4
0.6
0.8
1.0
Reconstructed cosθμ FGD1_HABwd_CC0PiNp_costheta_distribution

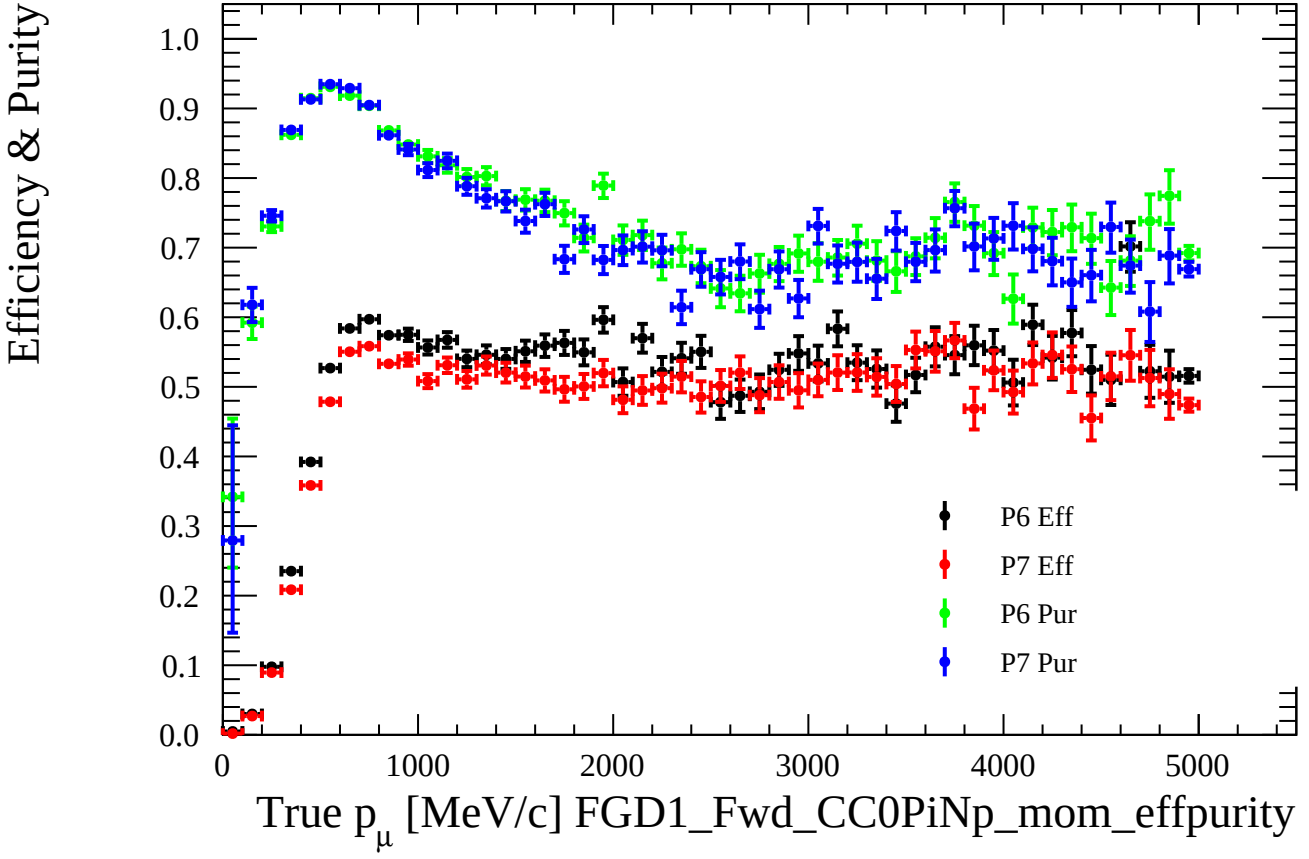

Integral 2.292e+04
Integral 1.87e+04
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
8000
7000
6000
5000
4000
3000
2000
1000
0
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
0.4
0.6
0.8
1.0
Reconstructed cosθμ FGD1_Fwd_CC1Pi_costheta_distribution

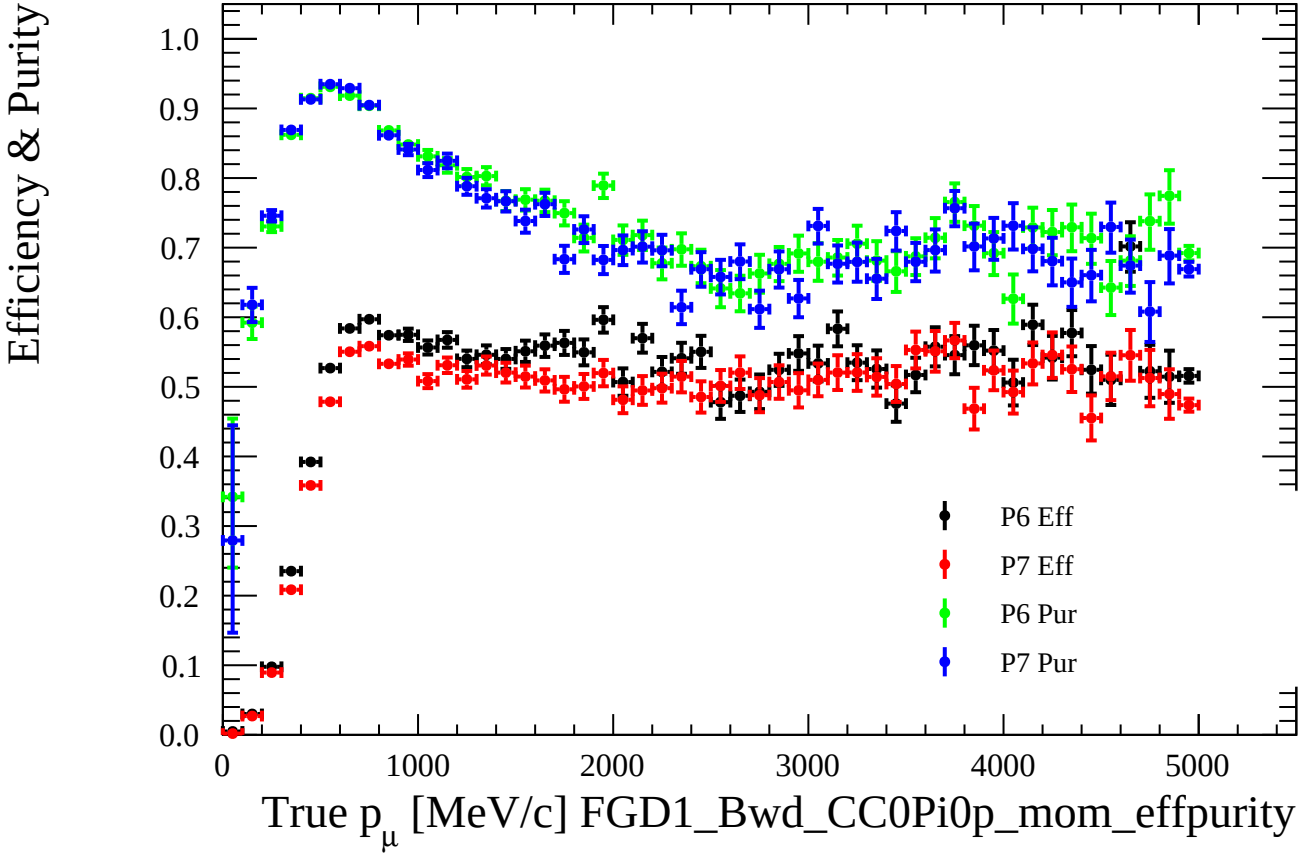

Integral 1792
Integral 1005
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
0
20
40
60
80
100
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
0.4
0.6
0.8
1.0
Reconstructed cosθμ FGD1_HAFwd_CC1Pi_costheta_distribution

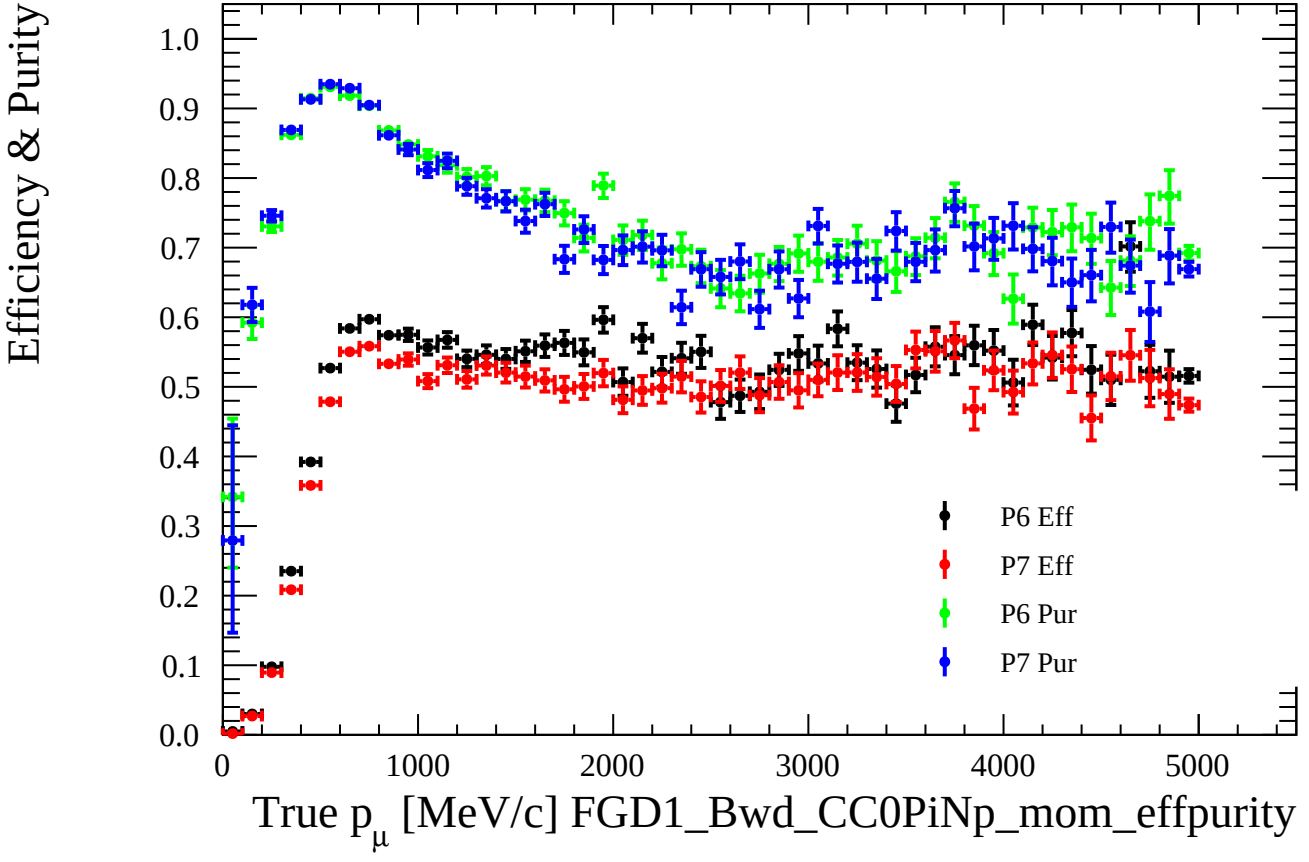

Integral 6638
Integral 6239
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
2500
2000
1500
1000
500
0
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
0.4
0.6
0.8
1.0
Reconstructed cosθμ FGD1_Fwd_CCOther_costheta_distribution

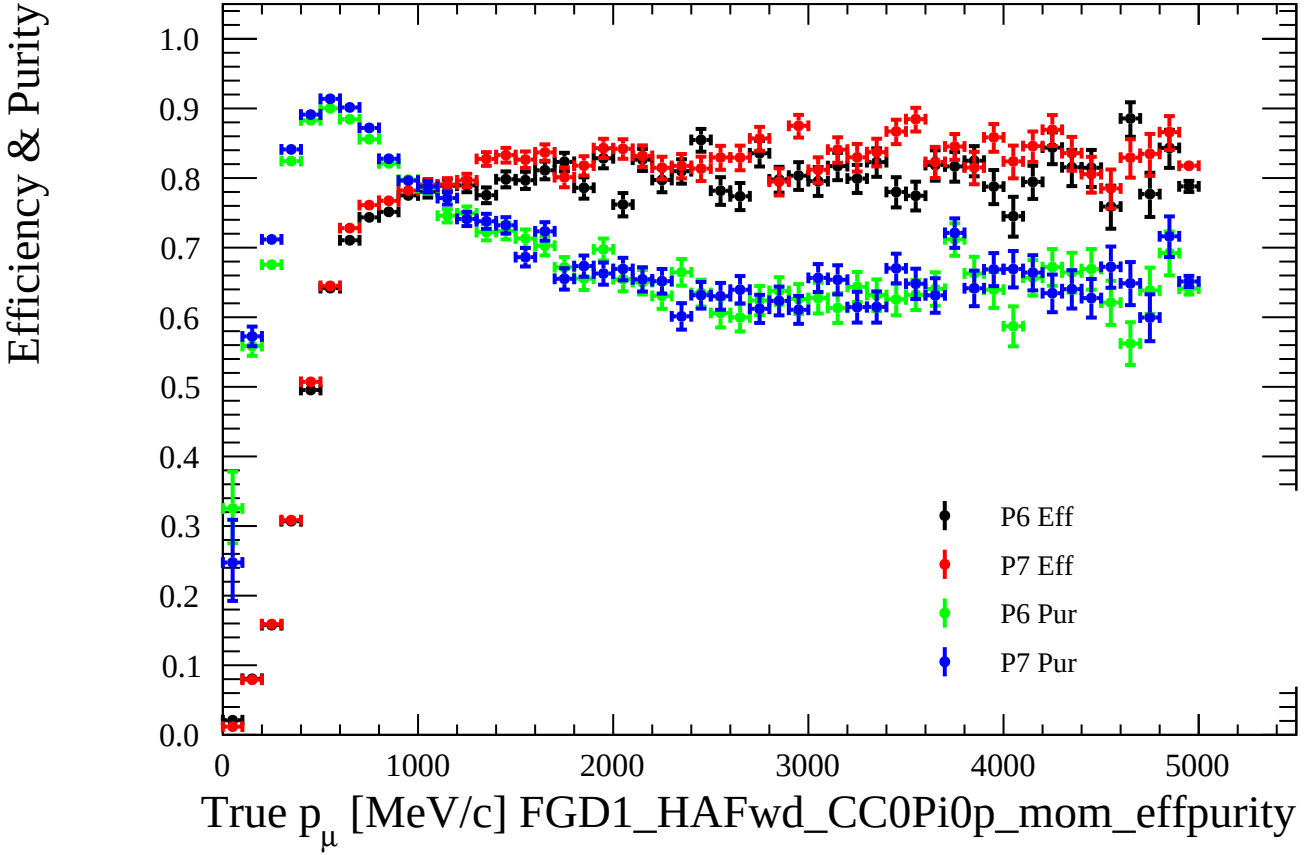

Integral 2.958e+04
Integral 3.416e+04
P6AA
CC0π
CC1π+
CC-other
CC-photon
BKG
out FV
Events
12000
10000
8000
6000
4000
2000
0
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
0.4
0.6
0.8
1.0
Reconstructed cosθμ FGD1_CCPhoton_costheta_distribution


Efficiency & Purity
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0
1000
2000
3000
4000
5000
P6 Eff
P7 Eff
P6 Pur
P7 Pur
True p_μ [MeV/c] FGD1_Fwd_CC0Pi0p_mom_effpurity


Efficiency & Purity
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0
1000
2000
3000
4000
5000
P6 Eff
P7 Eff
P6 Pur
P7 Pur
True p_μ [MeV/c] FGD1_Fwd_CC0PiNp_mom_effpurity


Efficiency & Purity
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0
1000
2000
3000
4000
5000
P6 Eff
P7 Eff
P6 Pur
P7 Pur
True p_μ [MeV/c] FGD1_Bwd_CC0Pi0p_mom_effpurity


Efficiency & Purity
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0
1000
2000
3000
4000
5000
P6 Eff
P7 Eff
P6 Pur
P7 Pur
True p_μ [MeV/c] FGD1_Bwd_CC0PiNp_mom_effpurity


Efficiency & Purity
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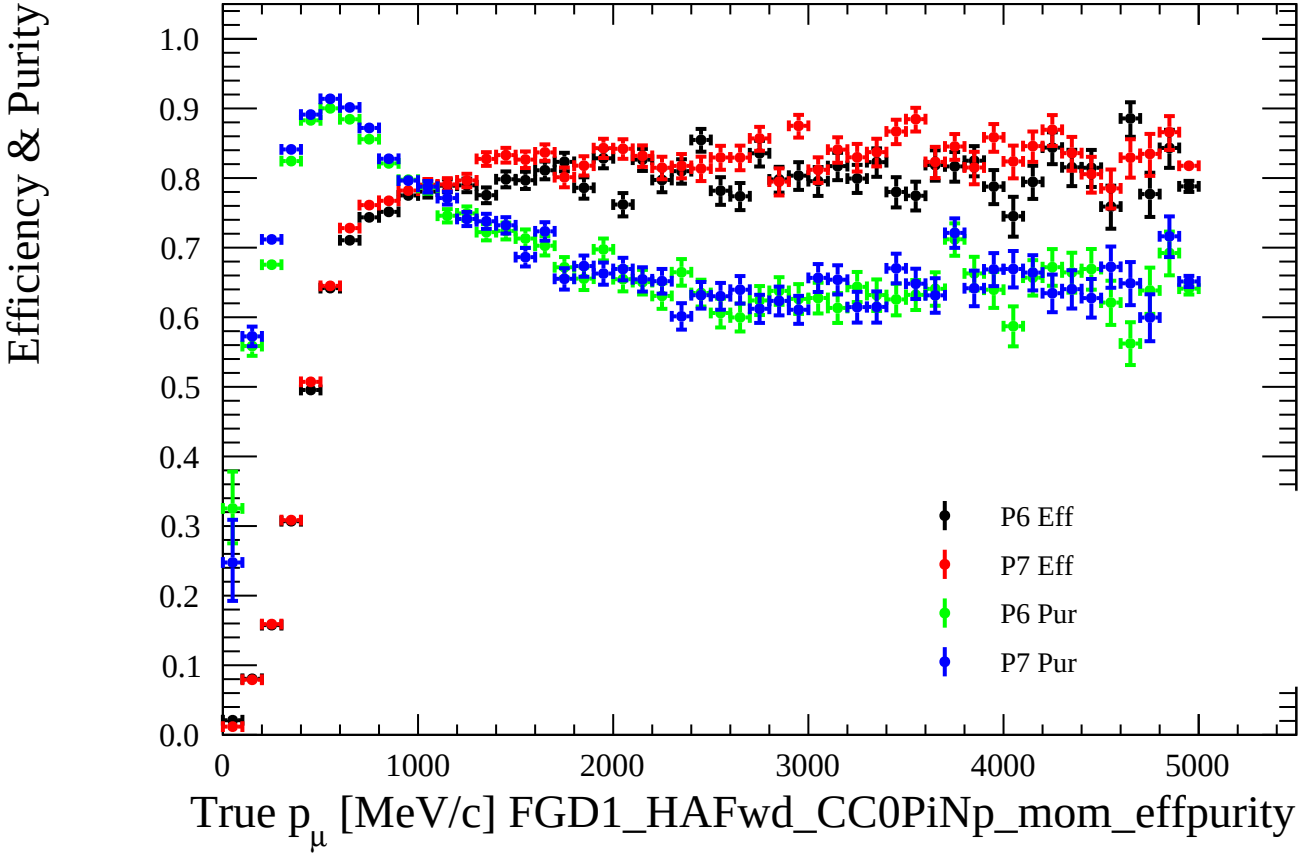
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0
1000
2000
3000
4000
5000
P6 Eff
P7 Eff
P6 Pur
P7 Pur
True p_μ [MeV/c] FGD1_HAFwd_CC0Pi0p_mom_effpurity


Efficiency & Purity
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0.2
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0
1000
2000
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4000
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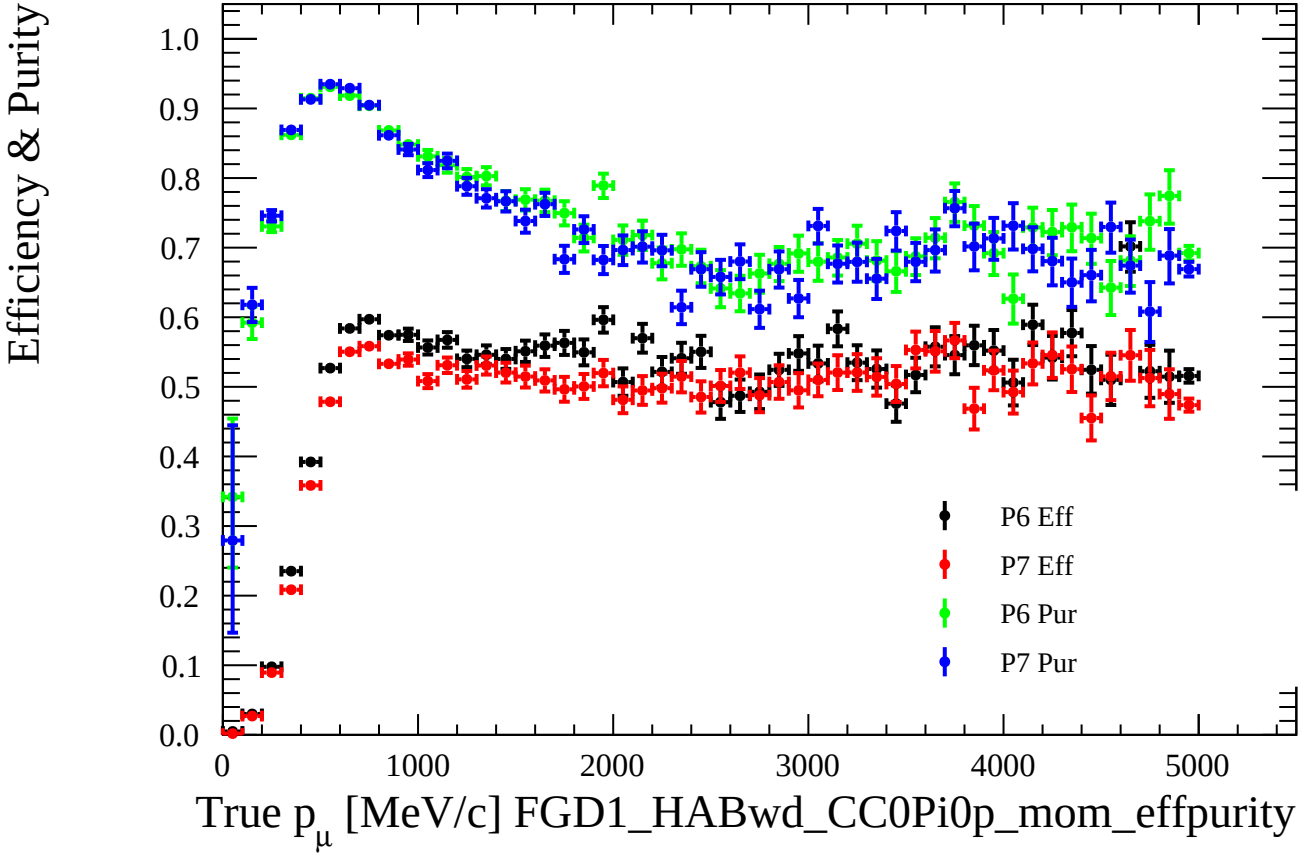
P6 Eff
P7 Eff
P6 Pur
P7 Pur
True p_μ [MeV/c] FGD1_HAFwd_CC0PiNp_mom_effpurity


Efficiency & Purity
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0.4
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0.2
0.1
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0
1000
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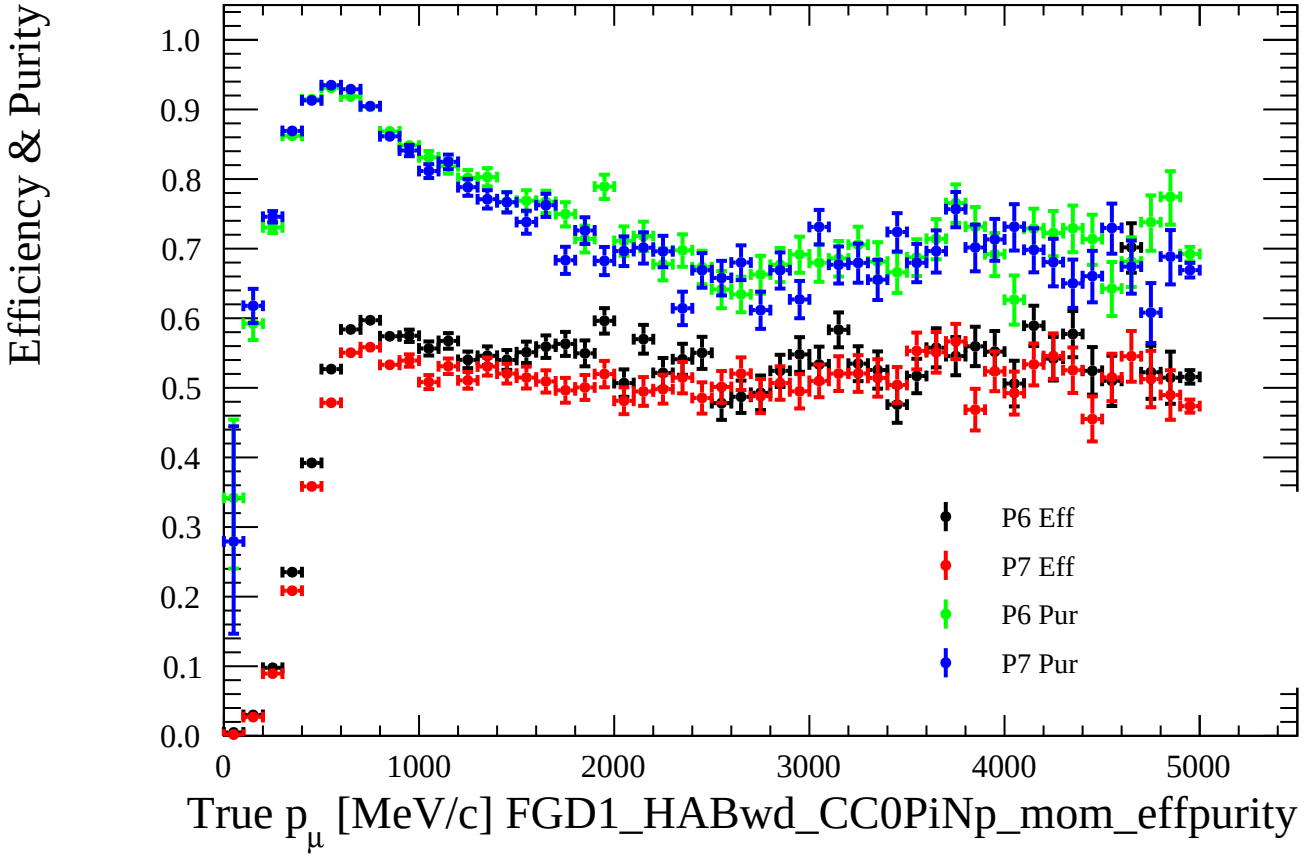
P6 Eff
P7 Eff
P6 Pur
P7 Pur
True p_μ [MeV/c] FGD1_HABwd_CC0Pi0p_mom_effpurity


Efficiency & Purity
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0.0
0
1000
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4000
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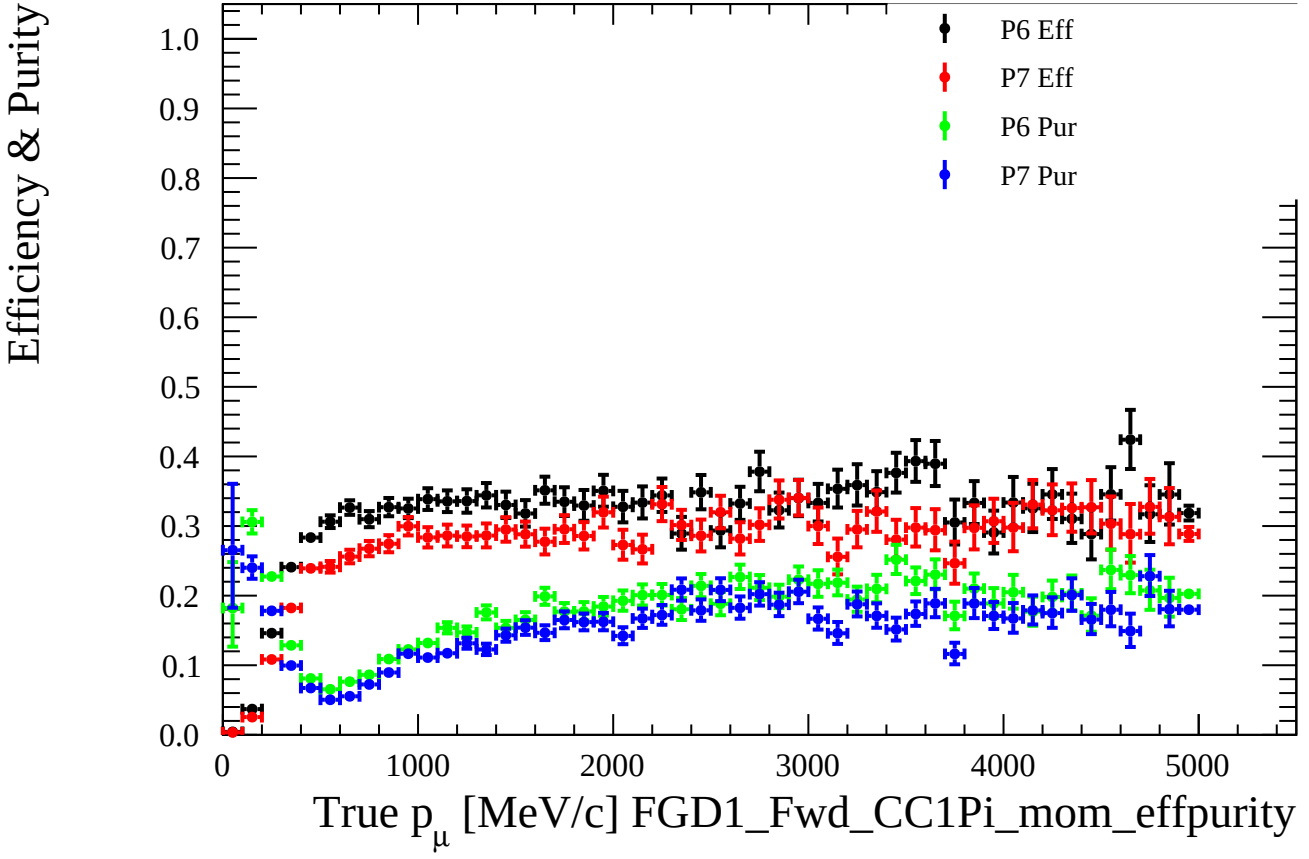
P6 Eff
P7 Eff
P6 Pur
P7 Pur
True p_μ [MeV/c] FGD1_HABwd_CC0PiNp_mom_effpurity


Efficiency & Purity
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0
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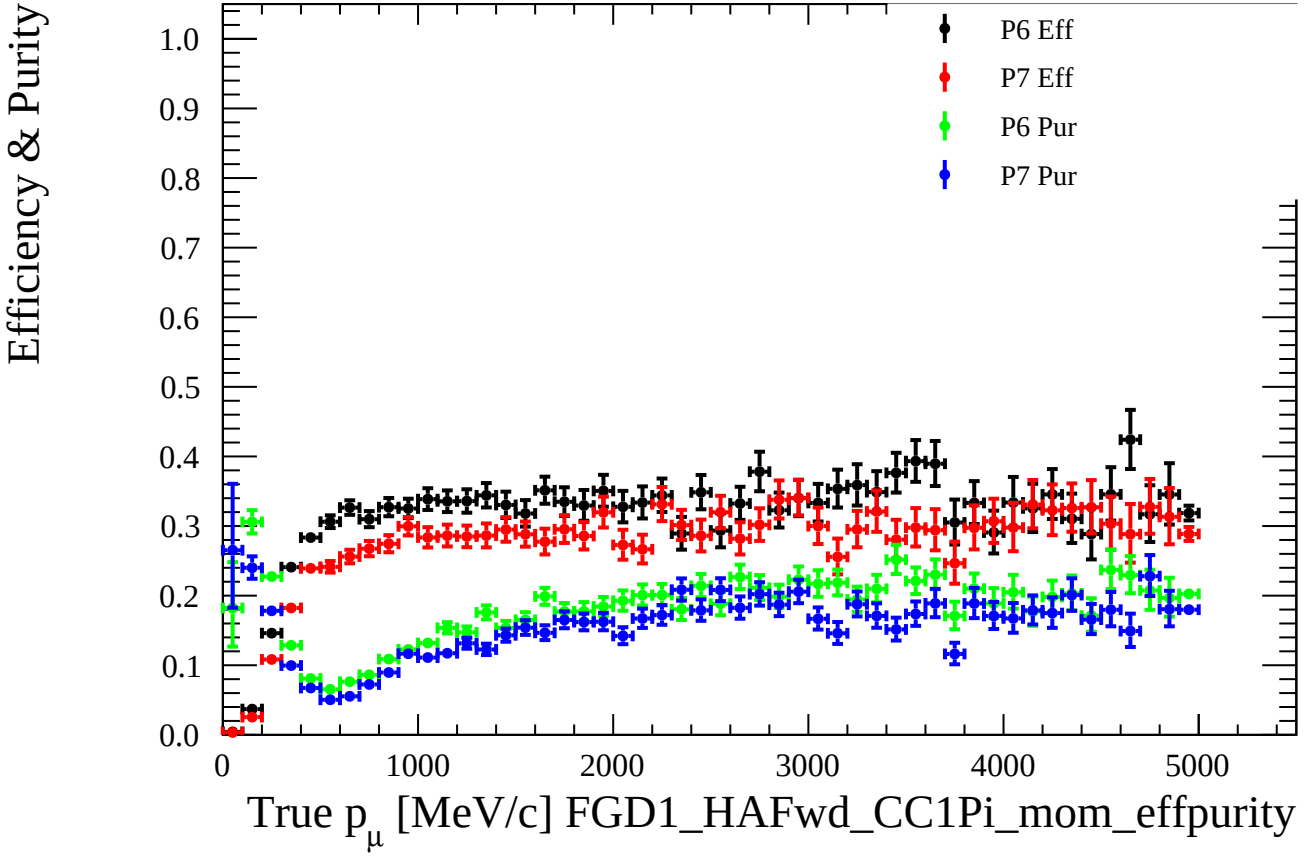
P6 Eff
P7 Eff
P6 Pur
P7 Pur
True p_μ [MeV/c] FGD1_Fwd_CC1Pi_mom_effpurity


Efficiency & Purity
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0
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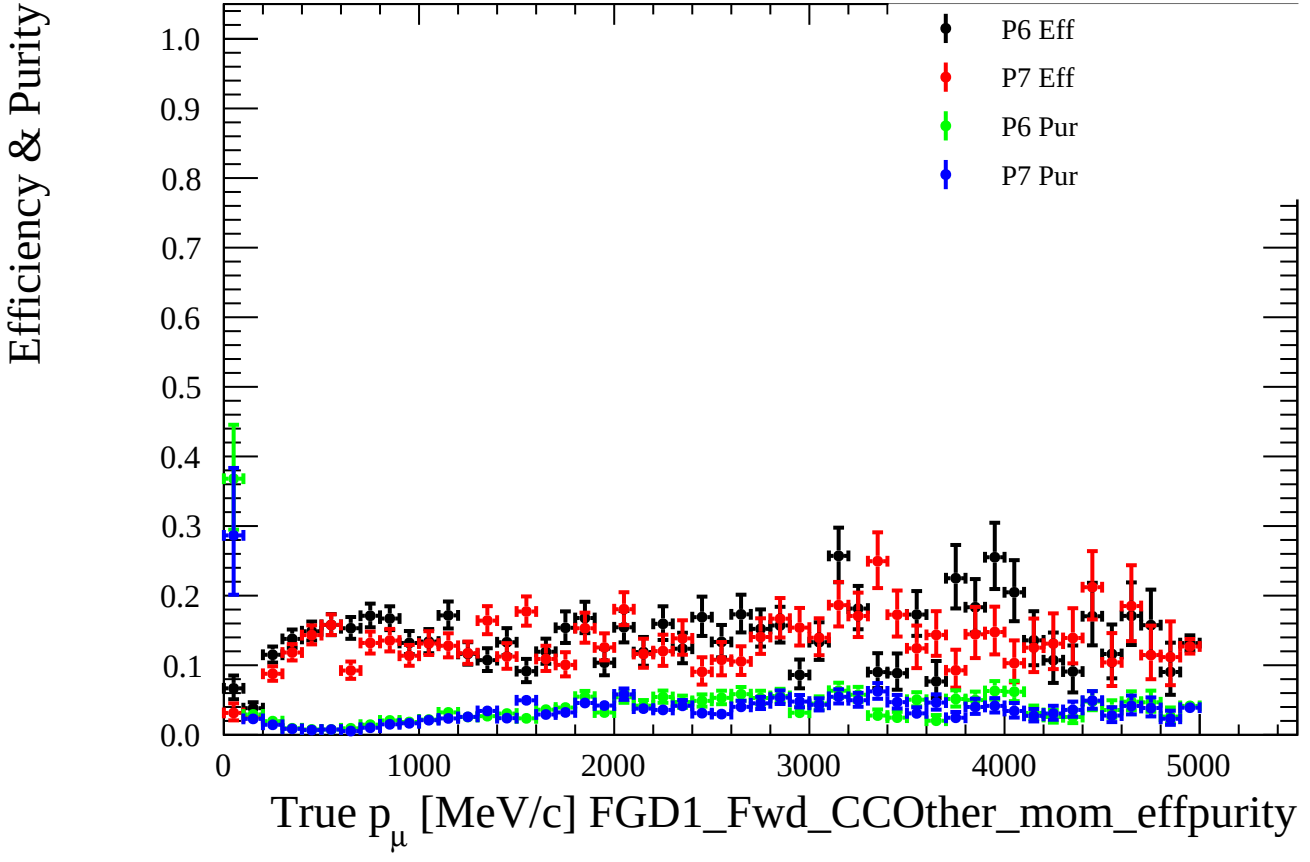
P6 Eff
P7 Eff
P6 Pur
P7 Pur
True p_μ [MeV/c] FGD1_HAFwd_CC1Pi_mom_effpurity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0.4
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0.2
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0.0
0
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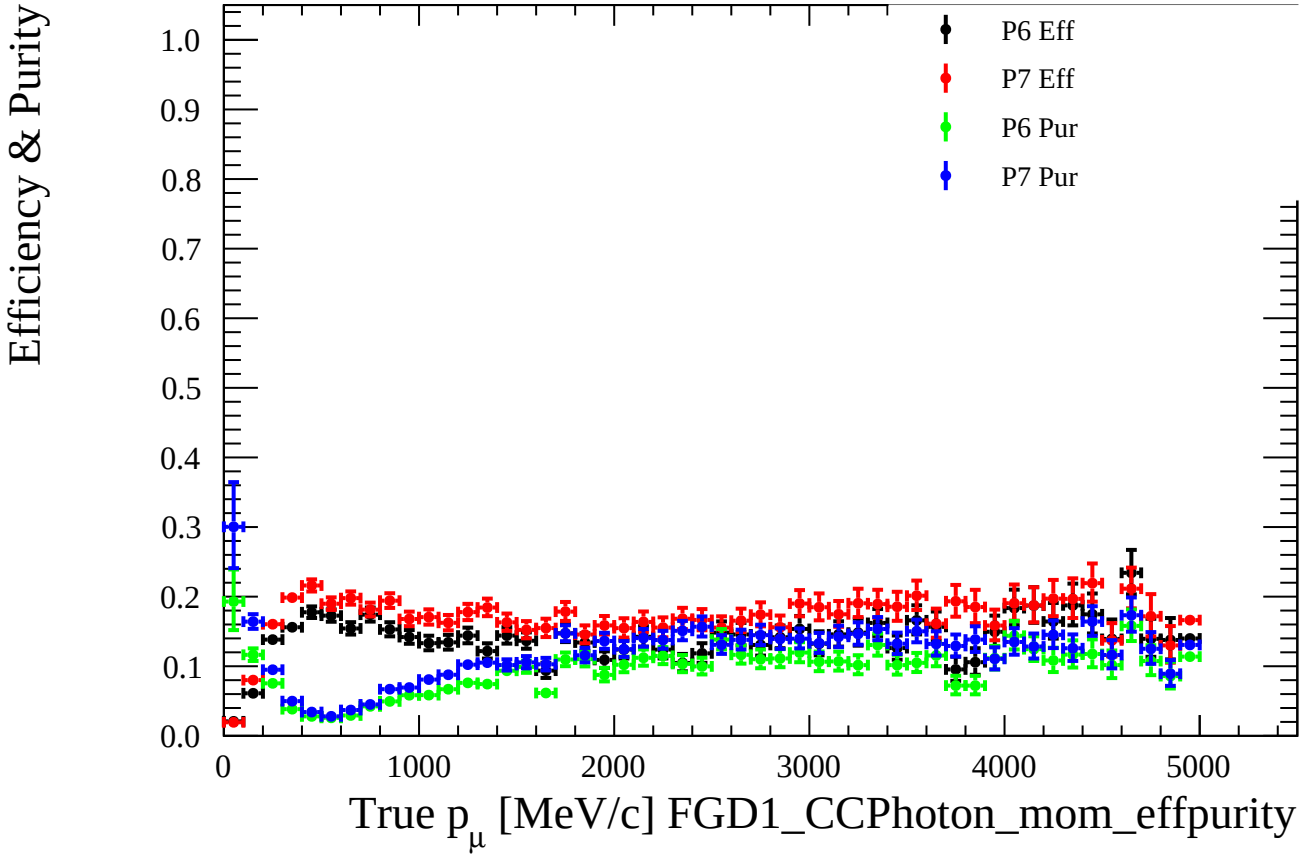
4000
5000
P6 Eff
P7 Eff
P6 Pur
P7 Pur
True p_μ [MeV/c] FGD1_Fwd_CCOther_mom_effpurity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0.6
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0.2
0.1
0.0
0
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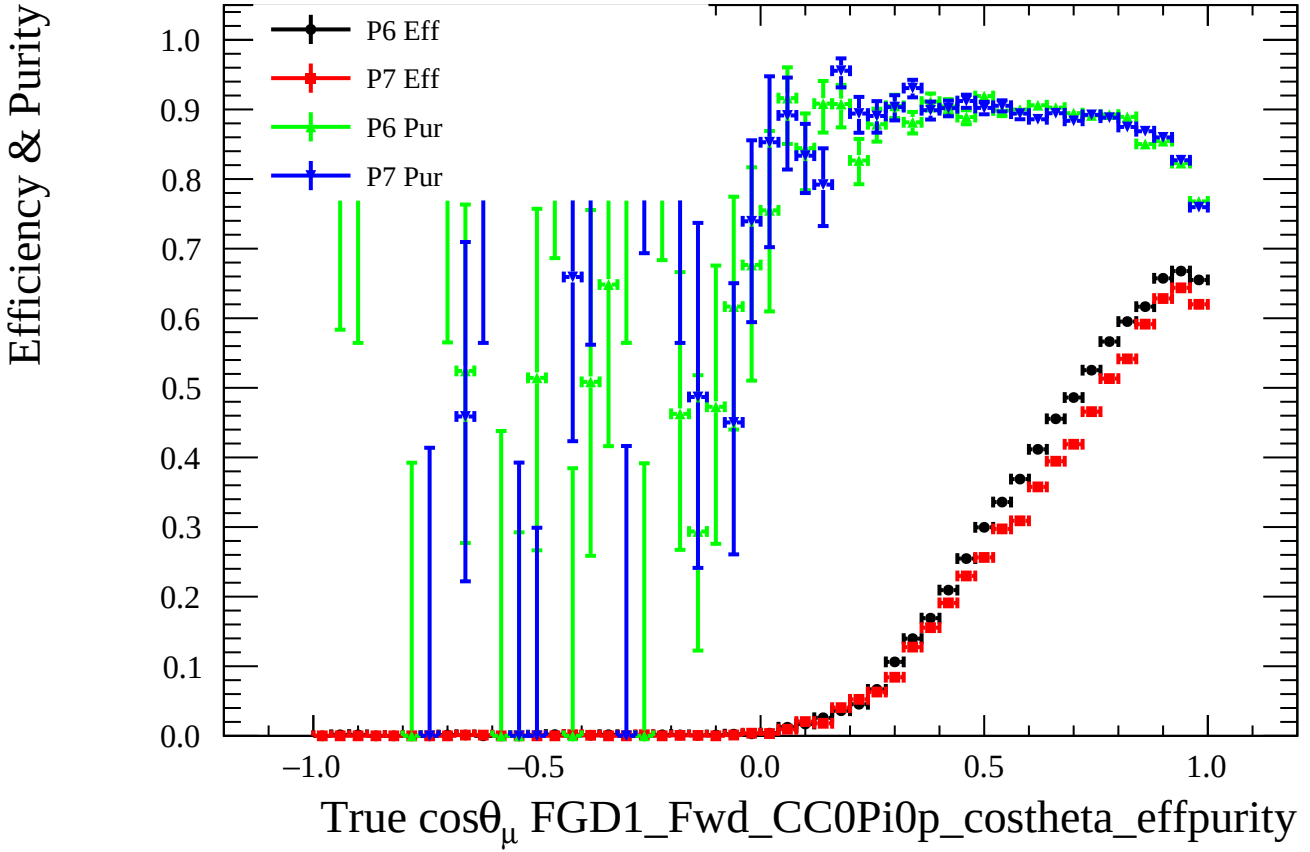
4000
5000
True p_μ [MeV/c] FGD1_CCPhoton_mom_effpurity
P6 Eff
P7 Eff
P6 Pur
P7 Pur


Efficiency & Purity
P6 Eff
P7 Eff
P6 Pur
P7 Pur
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0.7
0.6
0.5
0.4
0.3
0.2
0.1
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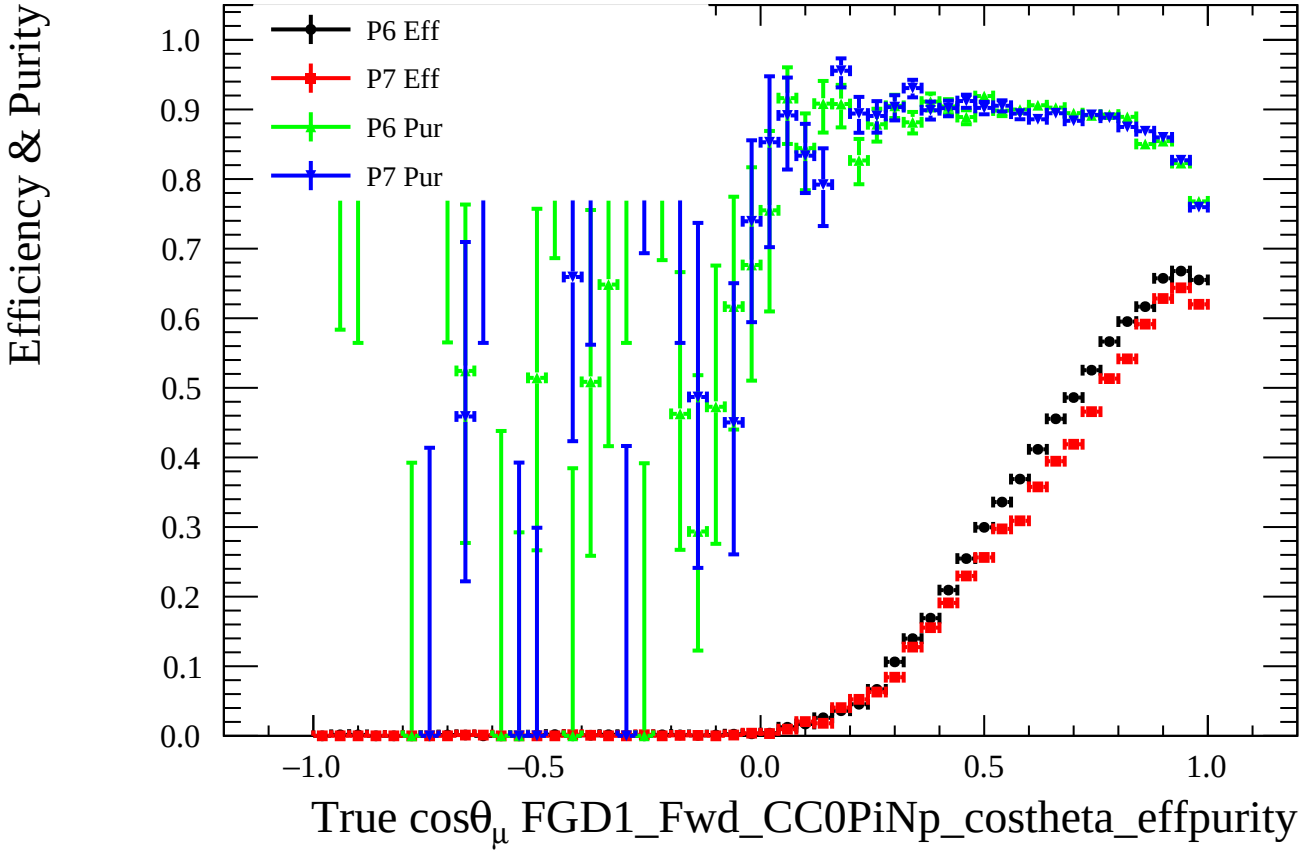
−0.5
0.0
0.5
1.0
True cosθμ FGD1_Fwd_CC0Pi0p_costheta_effpurity


Efficiency & Purity
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P7 Eff
P6 Pur
P7 Pur
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0.6
0.5
0.4
0.3
0.2
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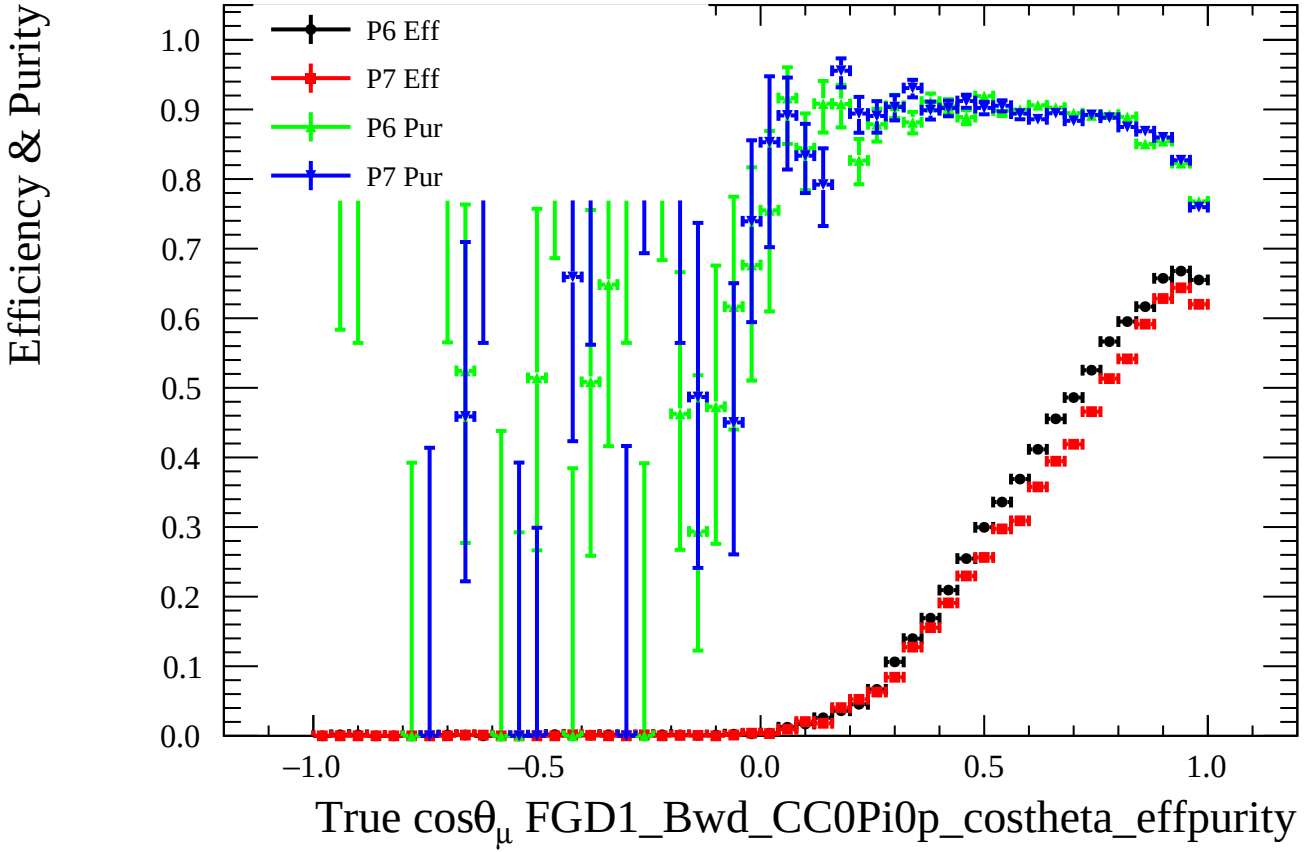
0.0
−1.0
−0.5
0.0
0.5
1.0
True cosθμ FGD1_Fwd_CC0PiNp_costheta_effpurity


Efficiency & Purity
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P7 Eff
P6 Pur
P7 Pur
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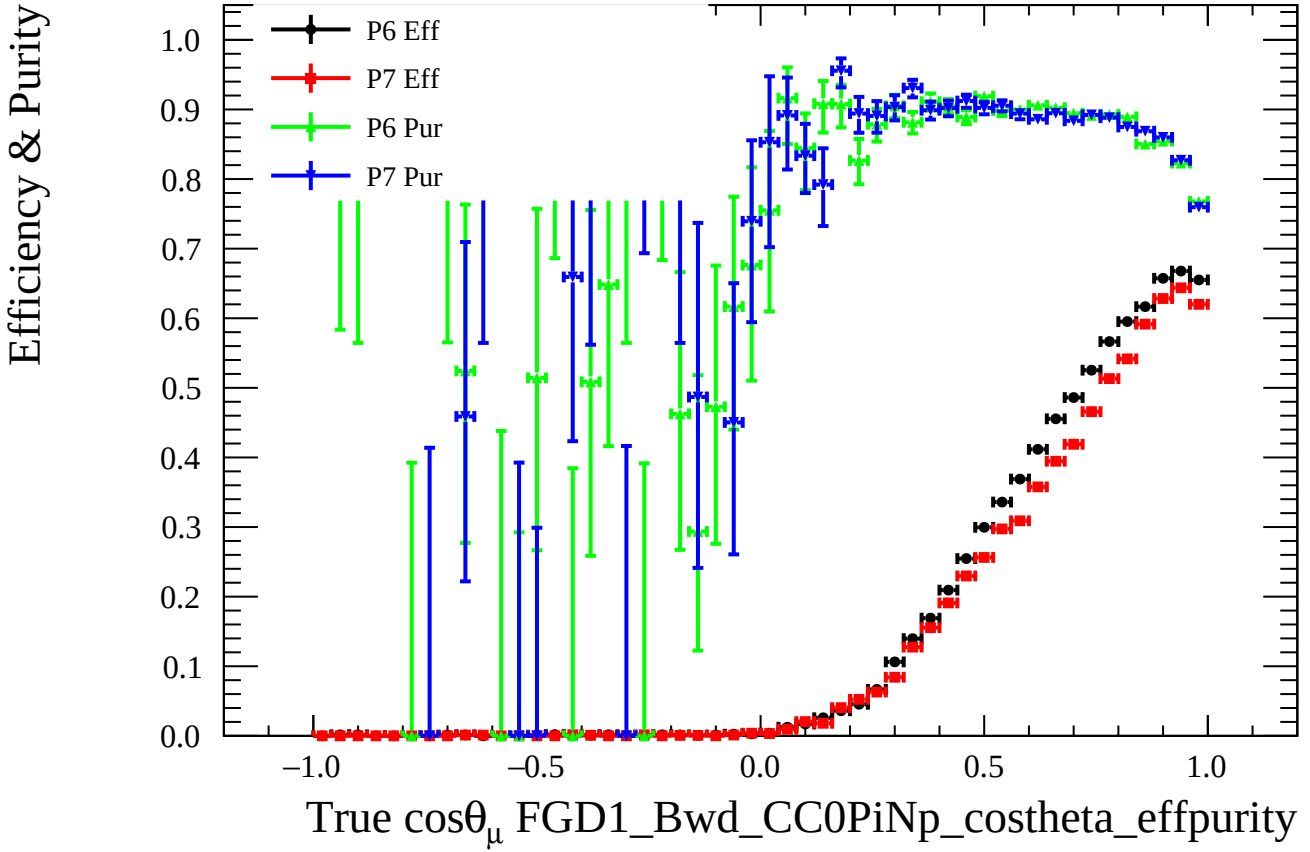
True cosθμ FGD1_Bwd_CC0Pi0p_costheta_effpurity


Efficiency & Purity
P6 Eff
P7 Eff
P6 Pur
P7 Pur
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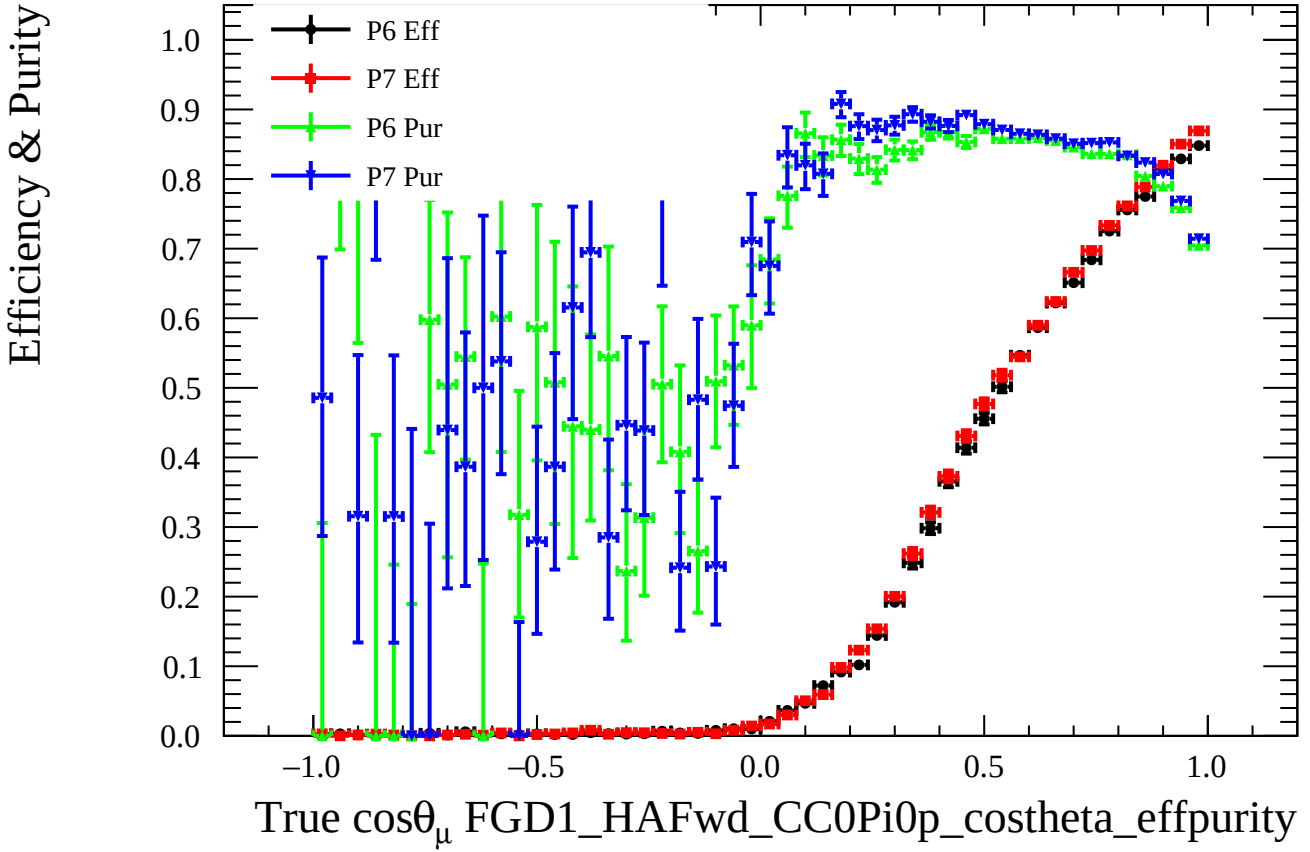
True cosθμ FGD1_Bwd_CC0PiNp_costheta_effpurity


Efficiency & Purity
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P7 Eff
P6 Pur
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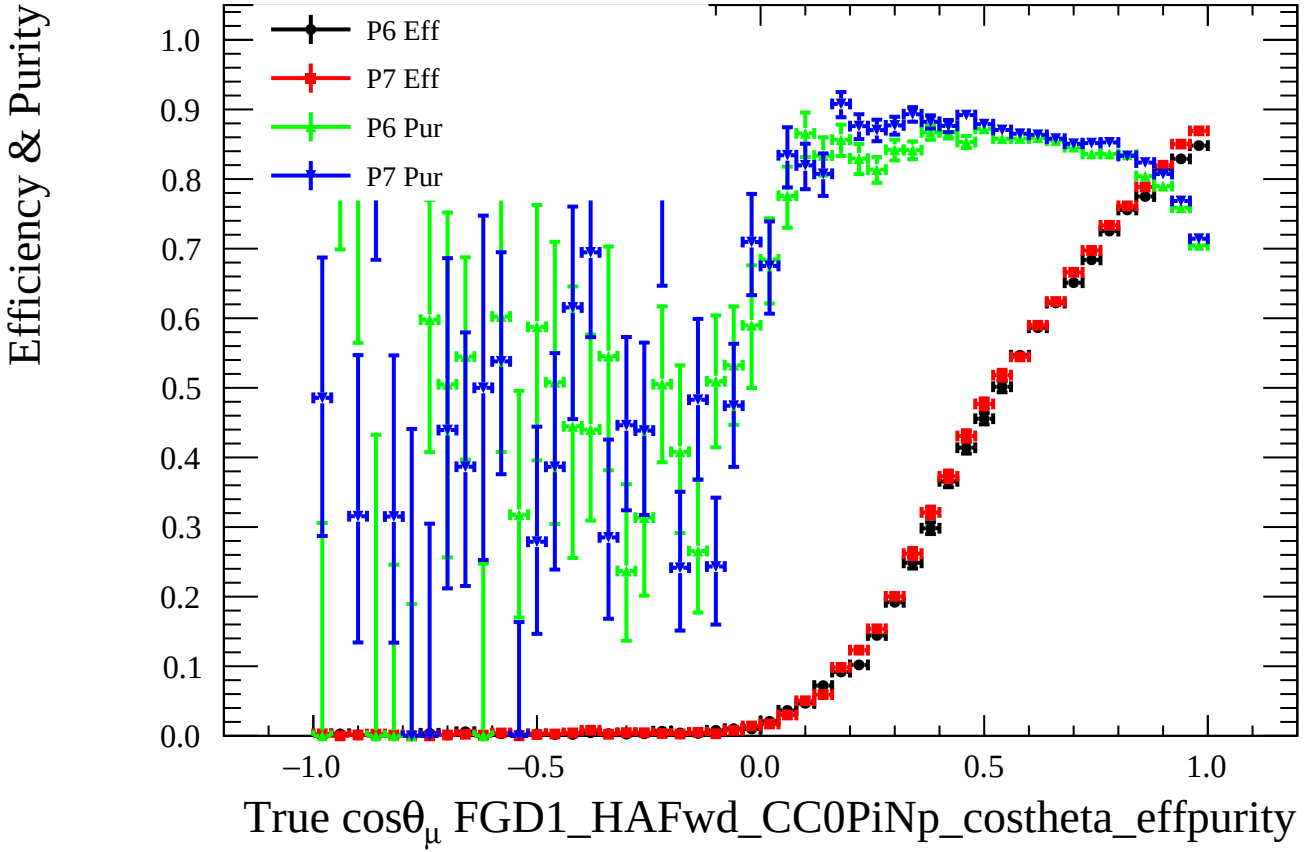
True cosθμ FGD1_HAFwd_CC0Pi0p_costheta_effpurity


Efficiency & Purity
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P6 Pur
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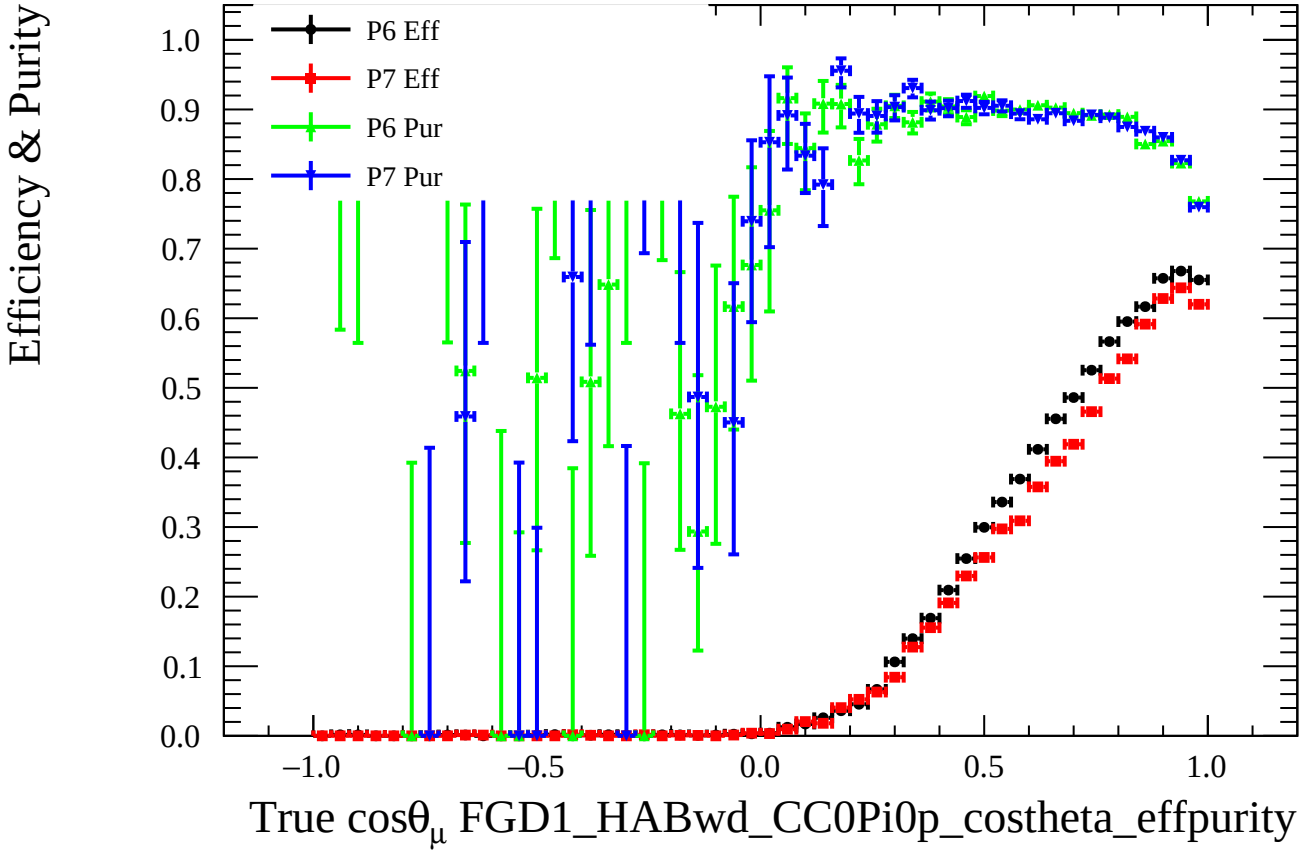
True cosθμ FGD1_HAFwd_CC0PiNp_costheta_effpurity


Efficiency & Purity
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P7 Eff
P6 Pur
P7 Pur
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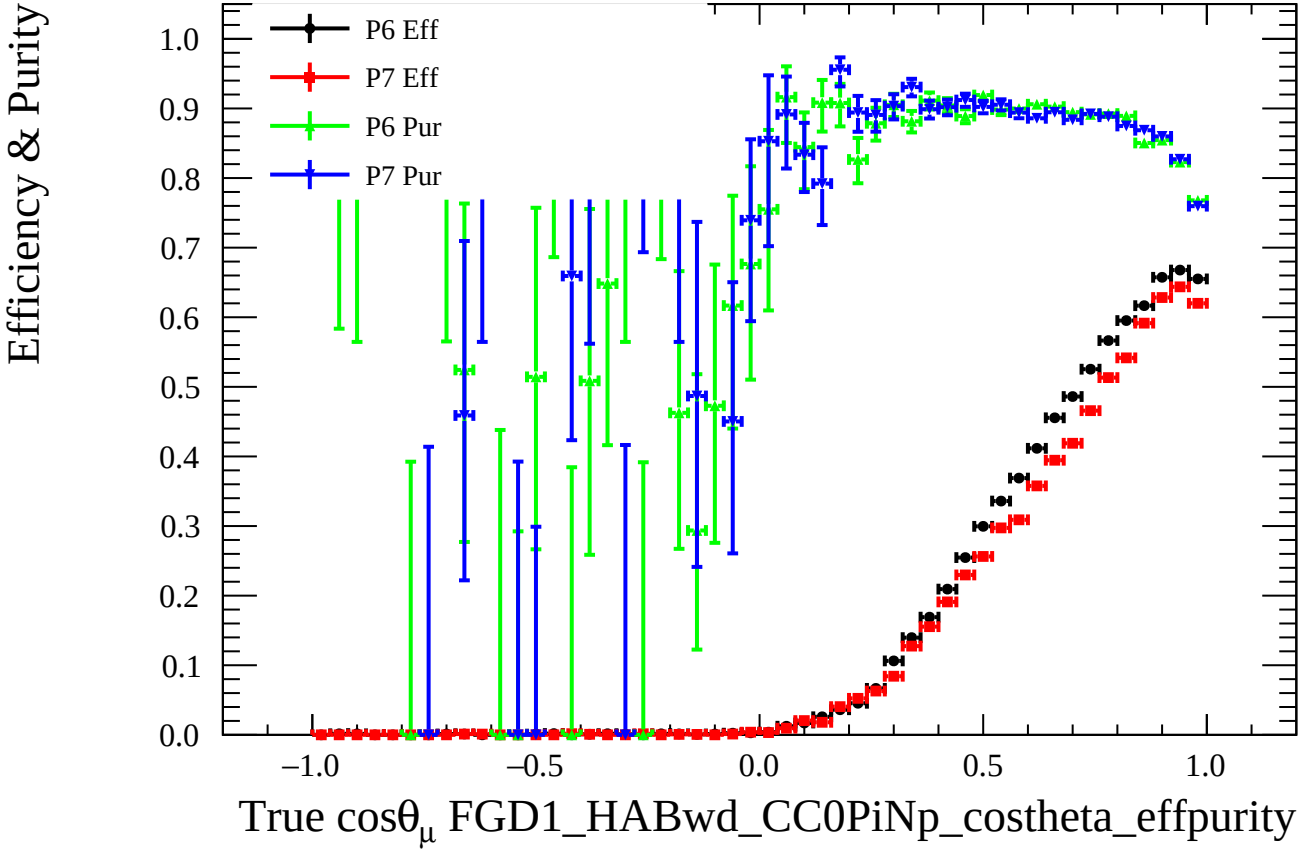
True cosθμ FGD1_HABwd_CC0Pi0p_costheta_effpurity


P6 Eff
P7 Eff
P6 Pur
P7 Pur
Efficiency & Purity
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0.4
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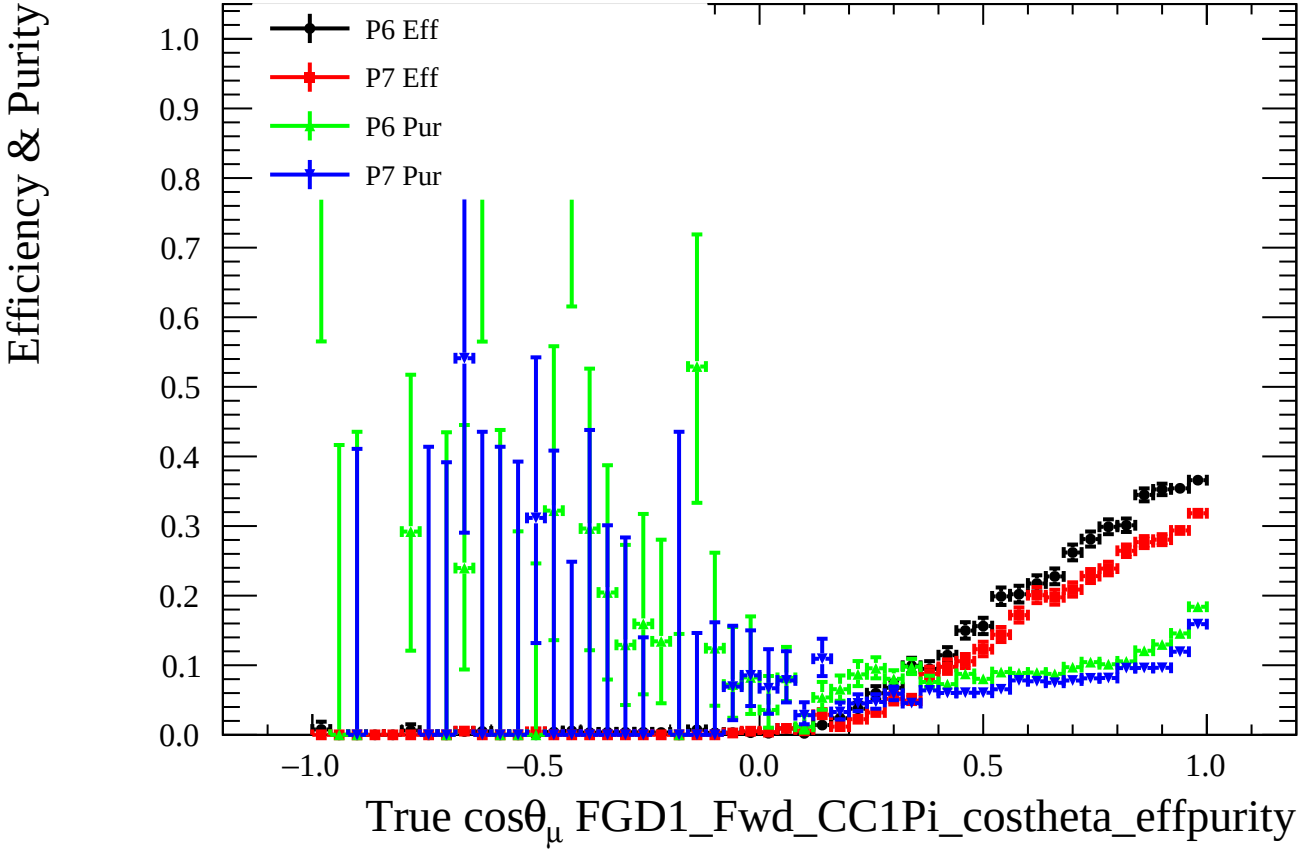
True cosθμ FGD1_HABwd_CC0PiNp_costheta_effpurity


Efficiency & Purity
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P7 Eff
P6 Pur
P7 Pur
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0.4
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0.2
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−0.5
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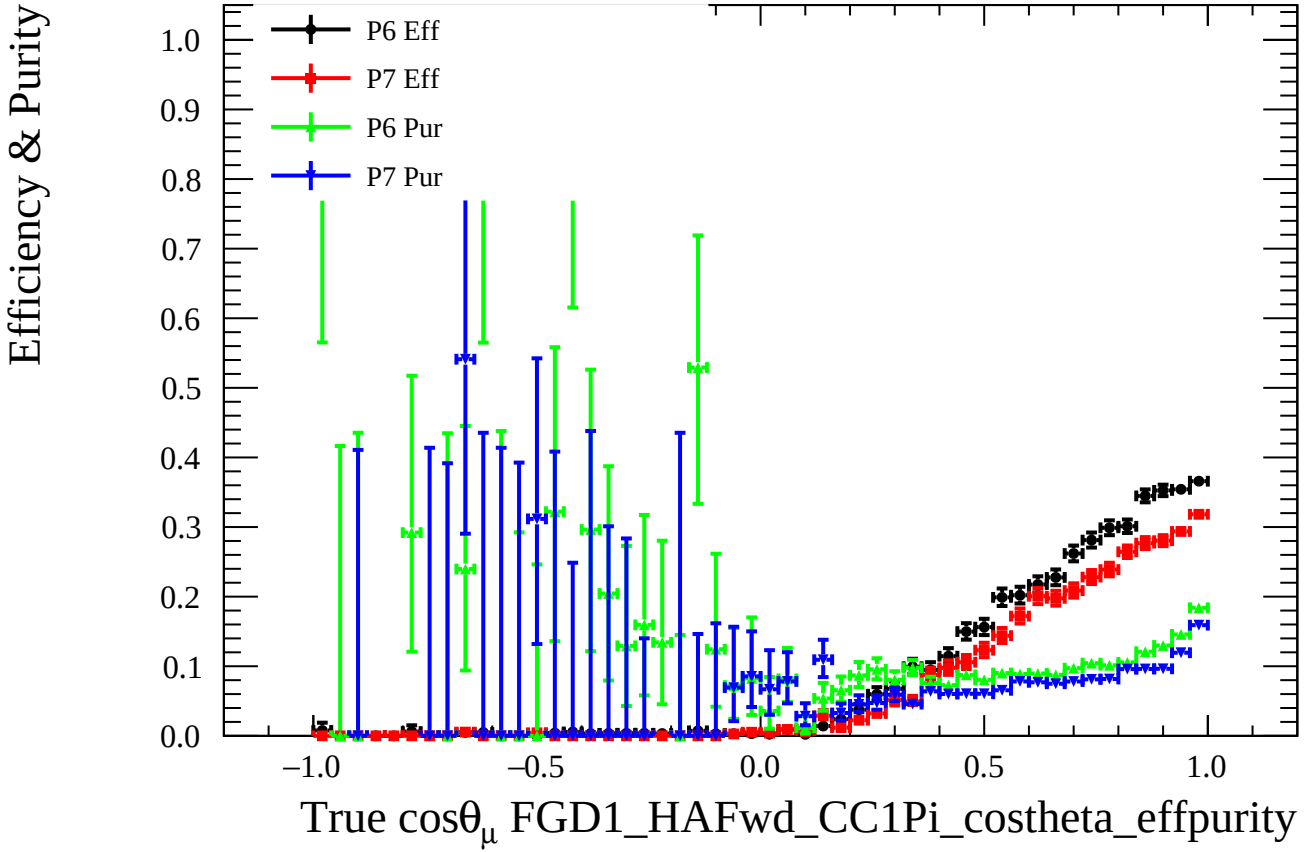
True cosθμ FGD1_Fwd_CC1Pi_costheta_effpurity


Efficiency & Purity
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P7 Eff
P6 Pur
P7 Pur
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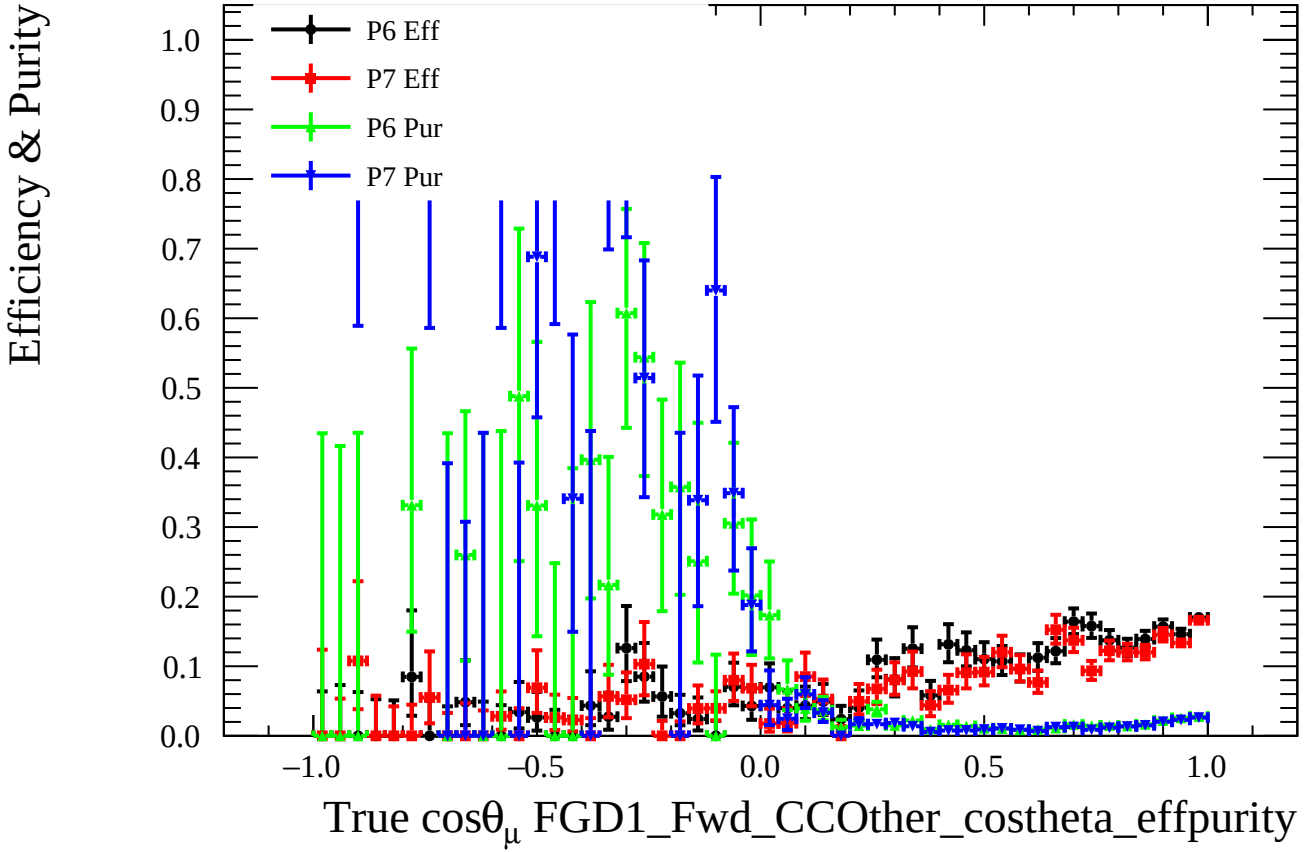
True cosθμ FGD1_HAFwd_CC1Pi_costheta_effpurity


Efficiency & Purity
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P7 Eff
P6 Pur
P7 Pur
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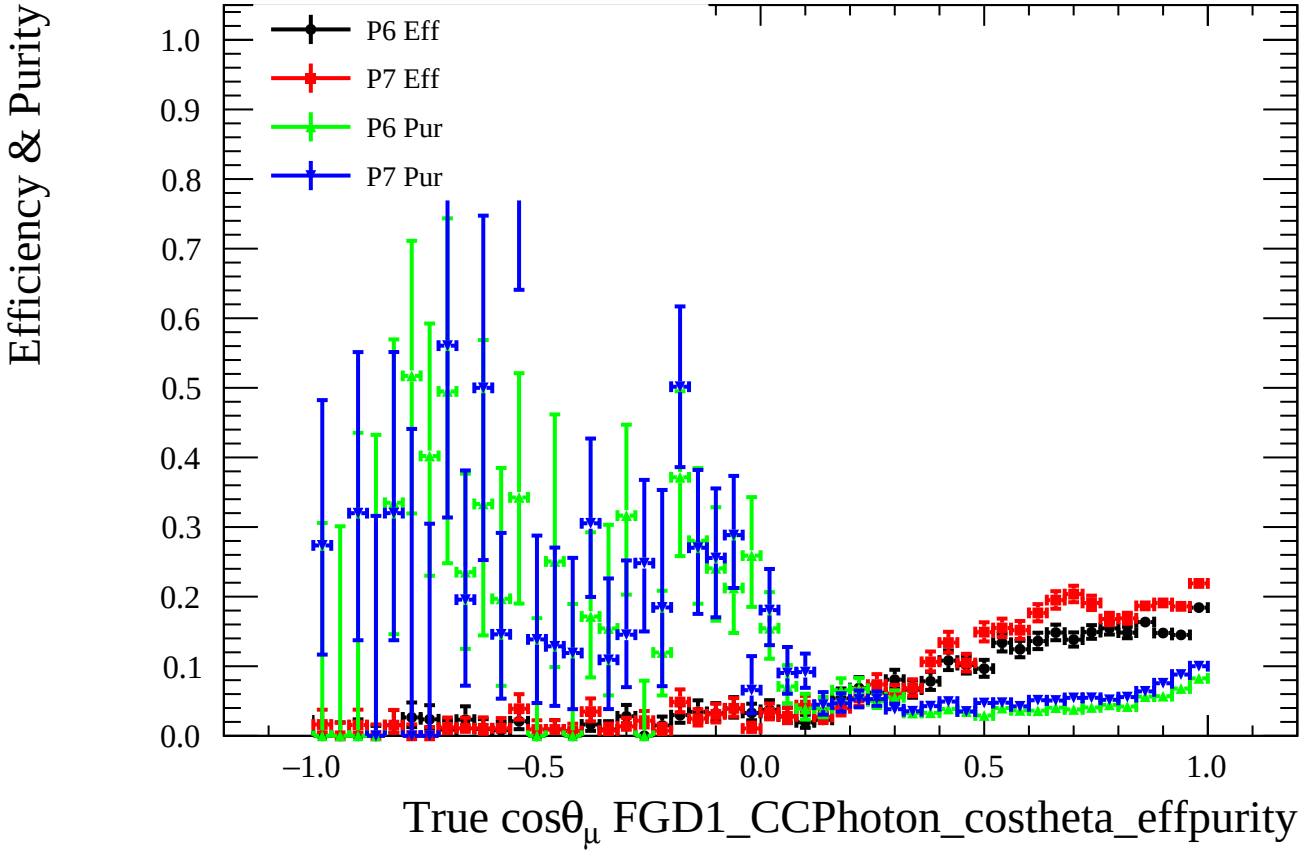
True cosθμ FGD1_Fwd_CCOther_costheta_effpurity


P6 Eff
P7 Eff
P6 Pur
P7 Pur
Efficiency & Purity
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1.0
True cosθμ FGD1_CCPhoton_costheta_effpurity