

Phi Reconstruction at 1200 A and 1345 A

Alex Barnes

Plugin and DSelector details

Plugin

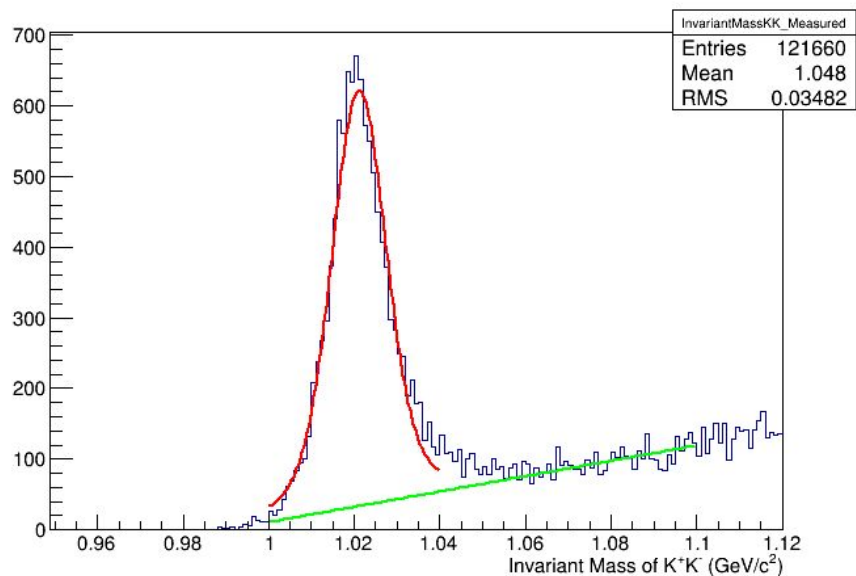
- P4AndVertexFit
- MaxPhotonRFDeltaT = 1.5*beamPeriod
- MinPhotonPIDFOM = 5.7E-7
- MinChargedPIDFOM = 5.7E-7
- Extra Good Track = 4
- MissingMass -0.06 - 0.06

DSelector

- Proton PID DeltaT = 1.0 (TOF), 1.0 (BCAL), 2.0 (FCAL)
- KPlus/Minus PID DeltaT = 0.4 (TOF), 0.5 (BCAL), 1.0 (FCAL)
- Proton CDC dE/dx cut
- Beam E 8.4 - 9.0 GeV

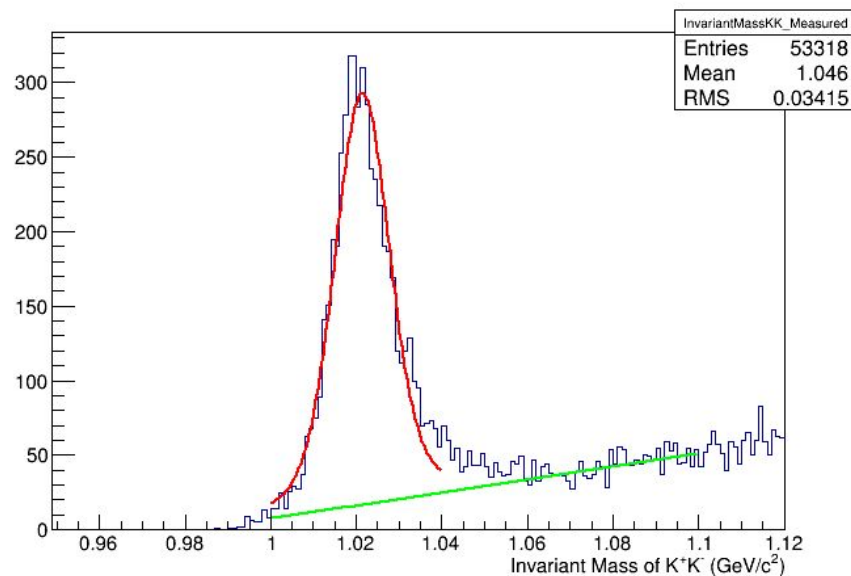
Invariant Mass - Measured, PARA

1200 A



Mass = 1.02107
 Sigma = 0.005427

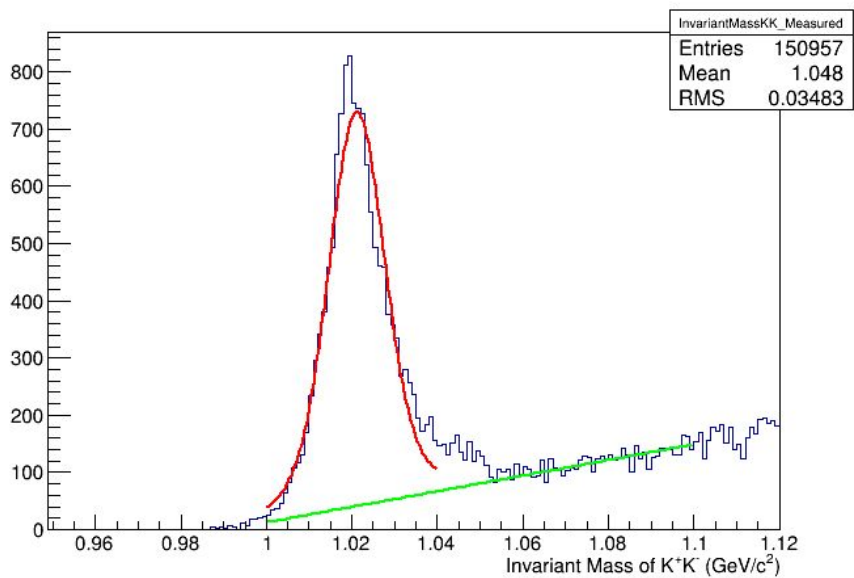
1345 A



Mass = 1.02136
 Sigma = 0.00546634

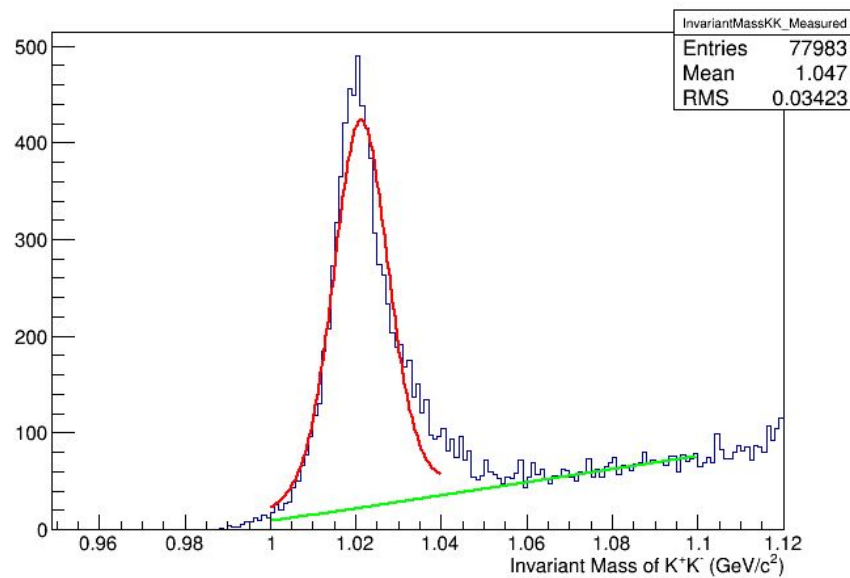
Invariant Mass - Measured, PERP

1200 A



Mass = 1.02109
 Sigma = 0.005658

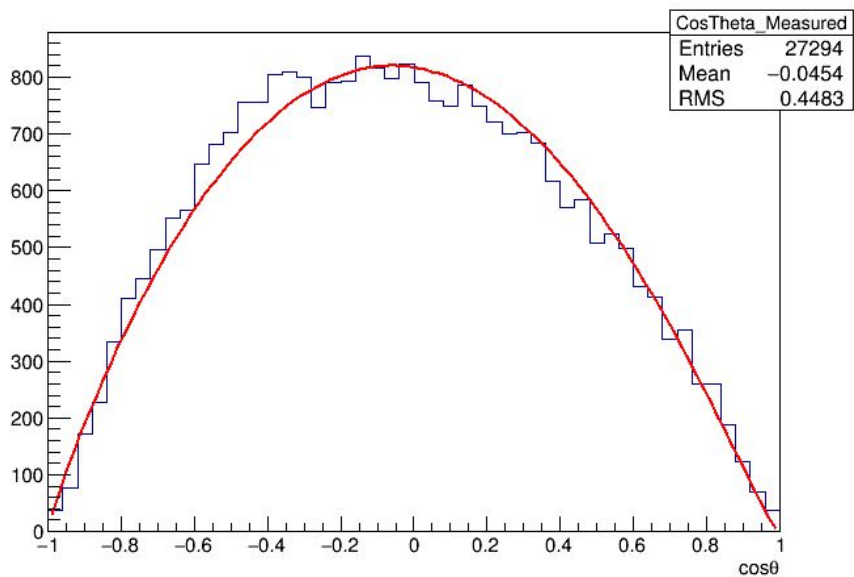
1345 A



Mass = 1.02115
 Sigma = 0.00546192

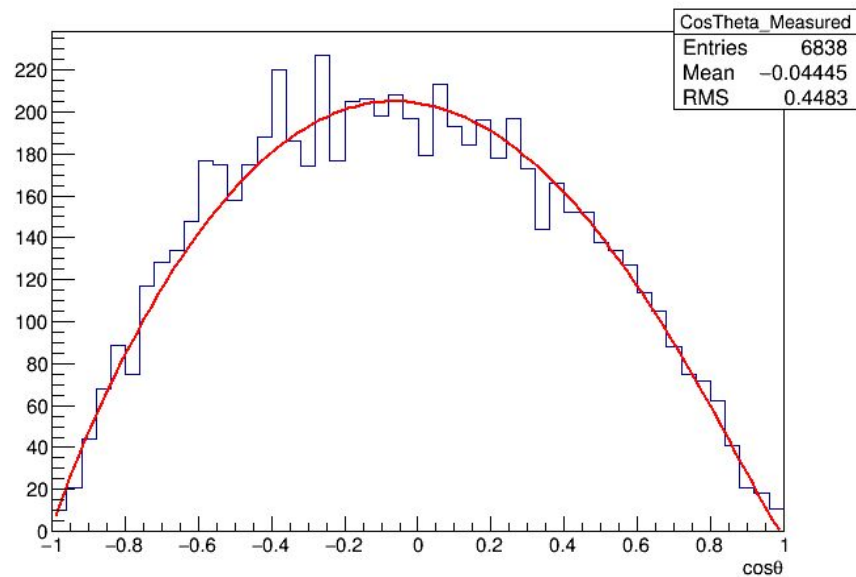
Cos(theta) - Measured, PARA

1200 A



Shifted by -0.073

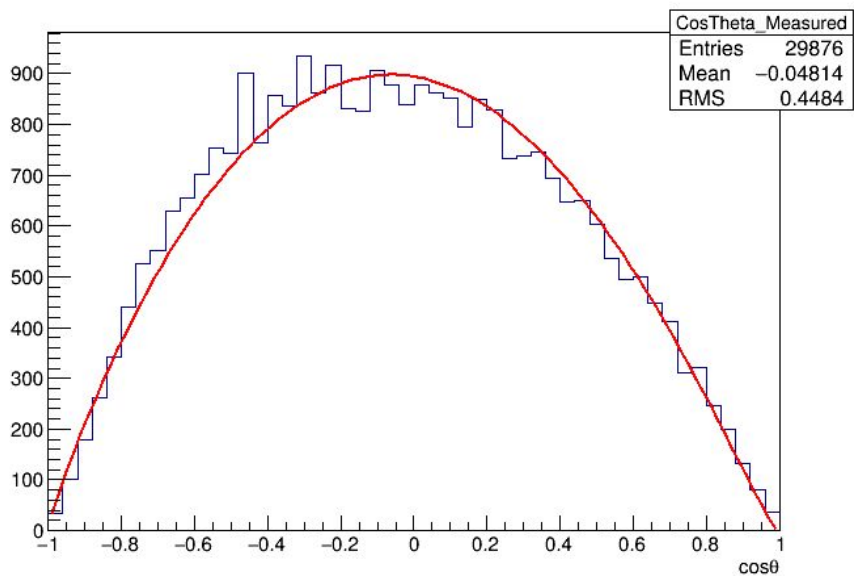
1345 A



Shifted by -0.080

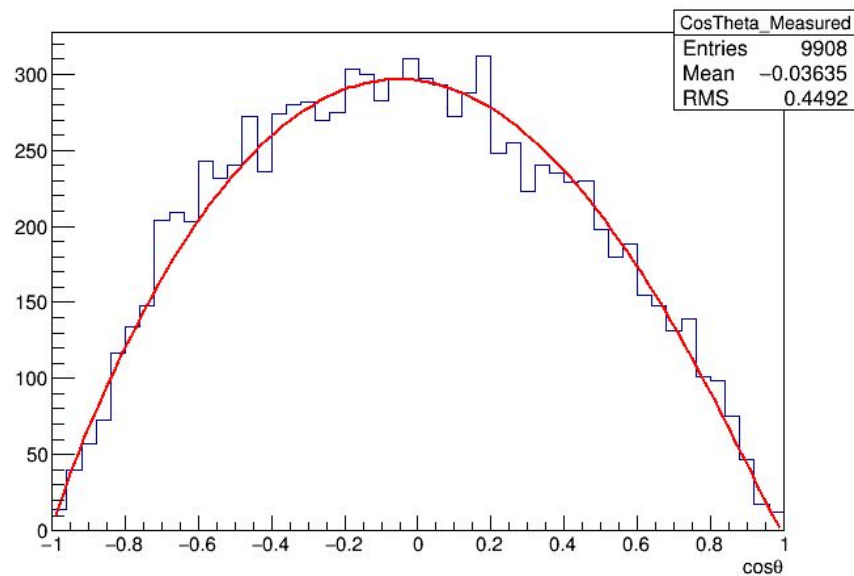
Cos(theta) - Measured, PERP

1200 A



Shifted by -0.078

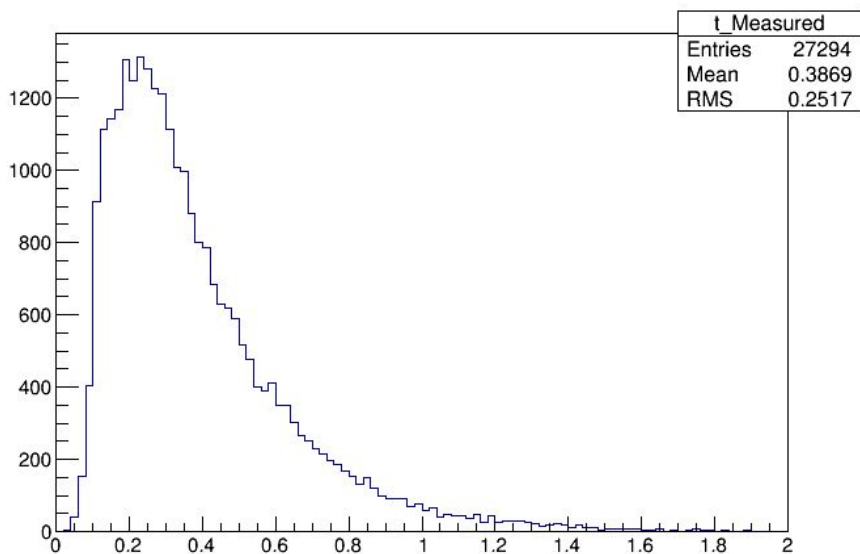
1345 A



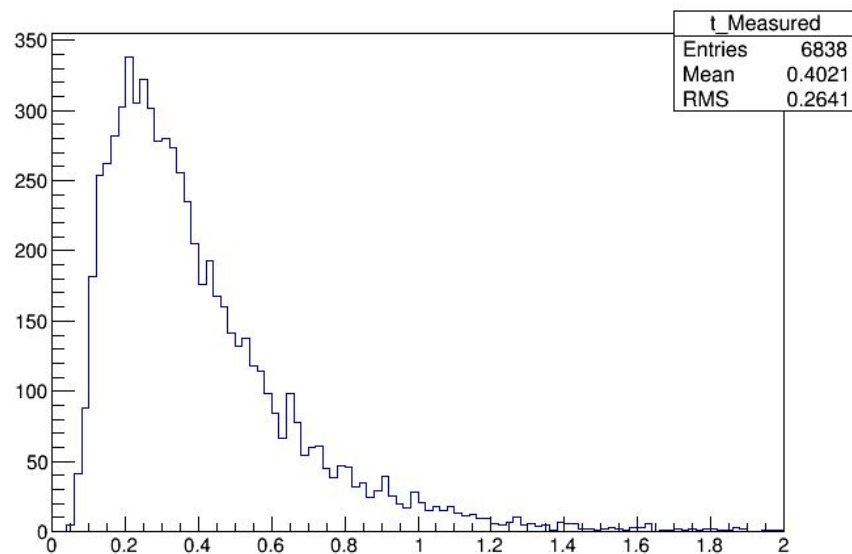
Shifted by -0.061

t-distribution - Measured, PARA

1200 A

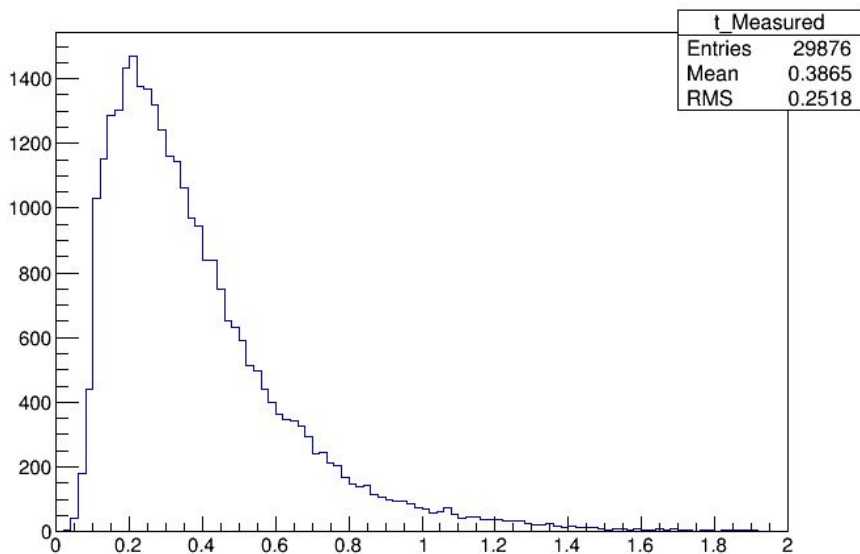


1345 A

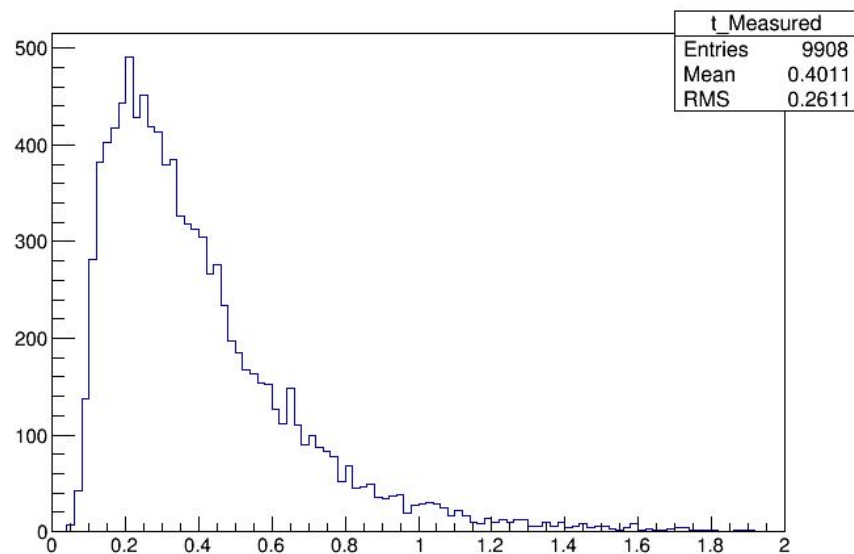


t-distribution - Measured, PERP

1200 A



1345 A



Spring 2016 Estimated Yields

PARA

- 1200 A: $2.7e9$ triggers, $\sim 10,300$ events, ratio = $3.8e-6$
- 1345 A: $9.17e8$ triggers, $\sim 4,850$ events, ratio = $5.35e-6$

PERP

- 1200 A: $2.8e9$ triggers, $\sim 12,500$ events, ratio = $4.35e-6$
- 1345 A: $1.31e9$ triggers, $\sim 7,200$ events, ratio = $5.5e-6$