

TDIS background analysis

Aruni Nadeeshani

BONuS12 cuts

evzcut = Elec_vz1 > -18.0 and Elec_vz1 < 12.0;
calocut = 50 < lu and lu < 410 and lv < 410 and lw < 370;
nphecut = nphe > 2;
energycut = el_energy1 > 0.1;
sfcut = (el_energy1/Elec_p1) > 0.2;
epcalcut = epcal > 0.07;
eprimecut = e_prime > 0.4 and e_prime < E_b;
RTPCtrackcut = nrows > 0;
thetaecut = thetae > 5 and thetae < 40;

BONuS12 cuts(proton selection)

chi2cut = chi2_helix < 15;

numhitscut = numhits > 10;

**maxradiuscut = max_radius > 65 and
max_radius < 75;**

deltavzcut = deltavz < 0 and deltavz < -60;

tdiffcut = tdiff > -400.0 and tdiff < 400.;



Run # 12620

Start time: 7:39

End time 9:37

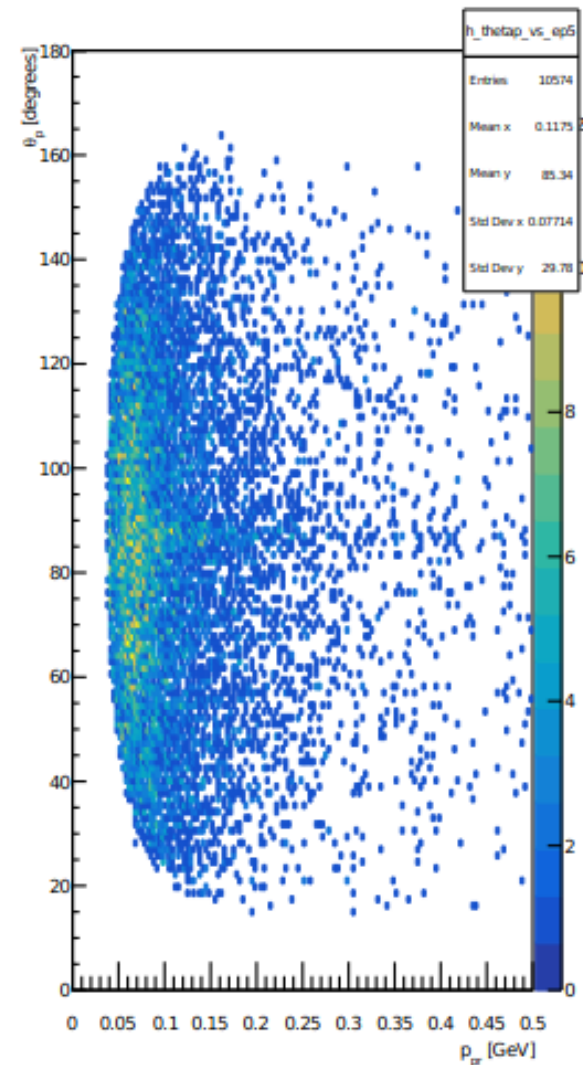
**Total time for run period 1 hr 58 min =118
min=7080 s**

BONuS12 θ_p vs proton momentum

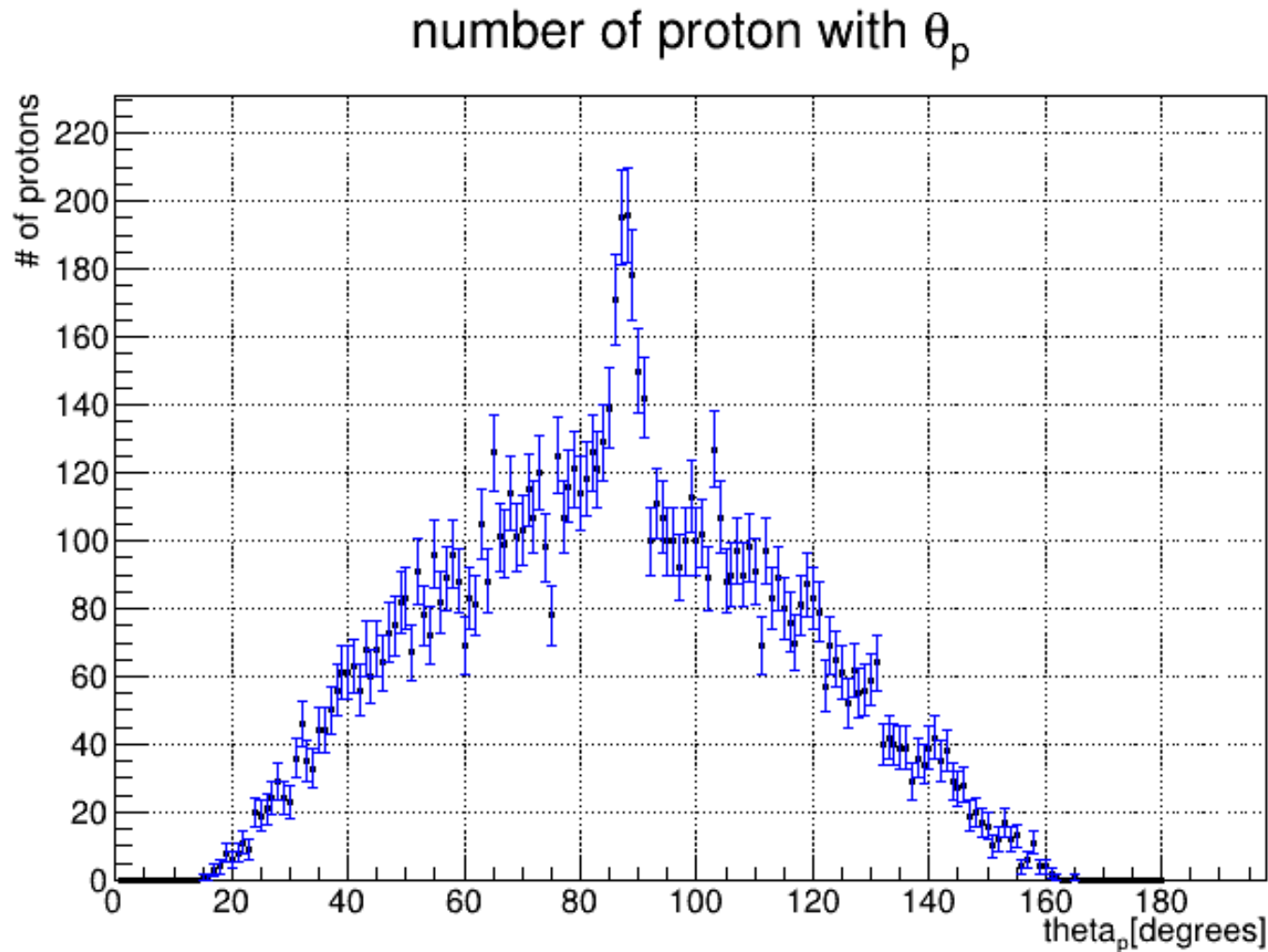
$0 \text{ deg} < \theta_p < 180 \text{ deg}$

$0 \text{ GeV} < P_{pr} < 0.5 \text{ GeV}$

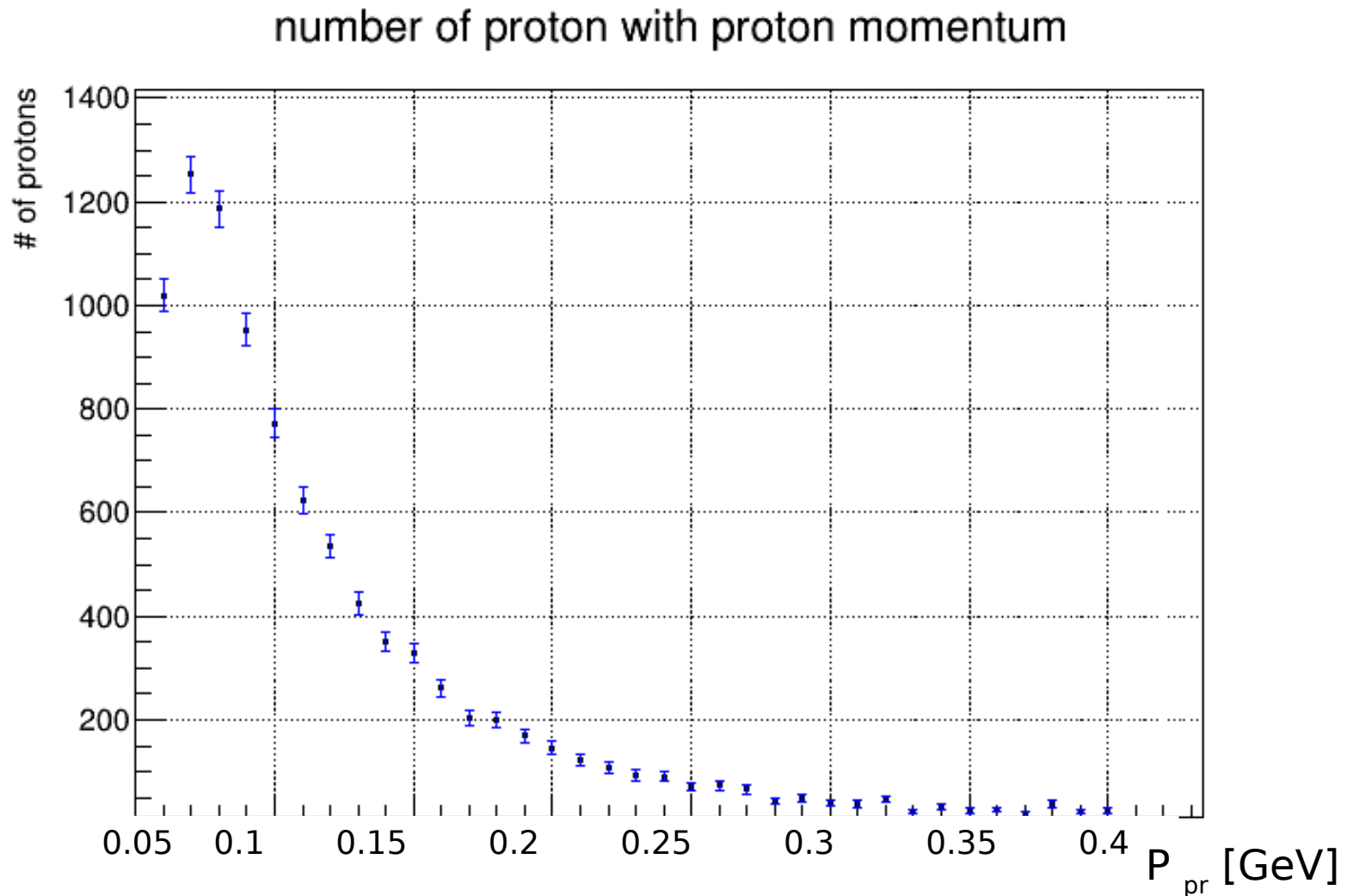
Number of entries: 10574



BONuS12 #of protons distribution with θ_p



BONuS12 #of protons distribution with momentum

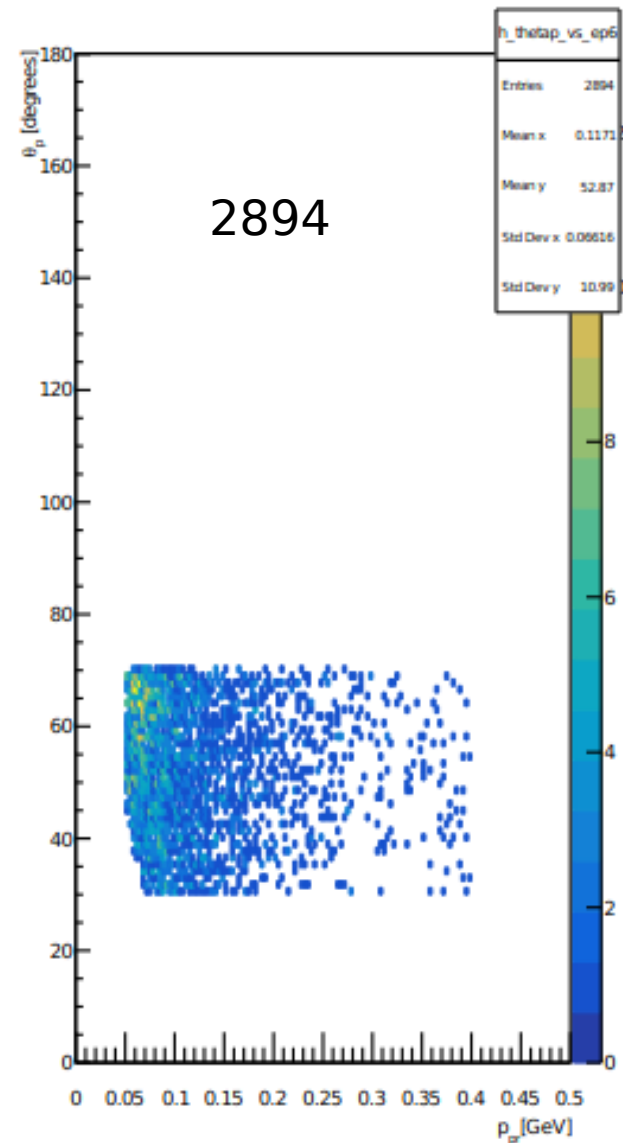


BONuS12 θ_p vs proton momentum

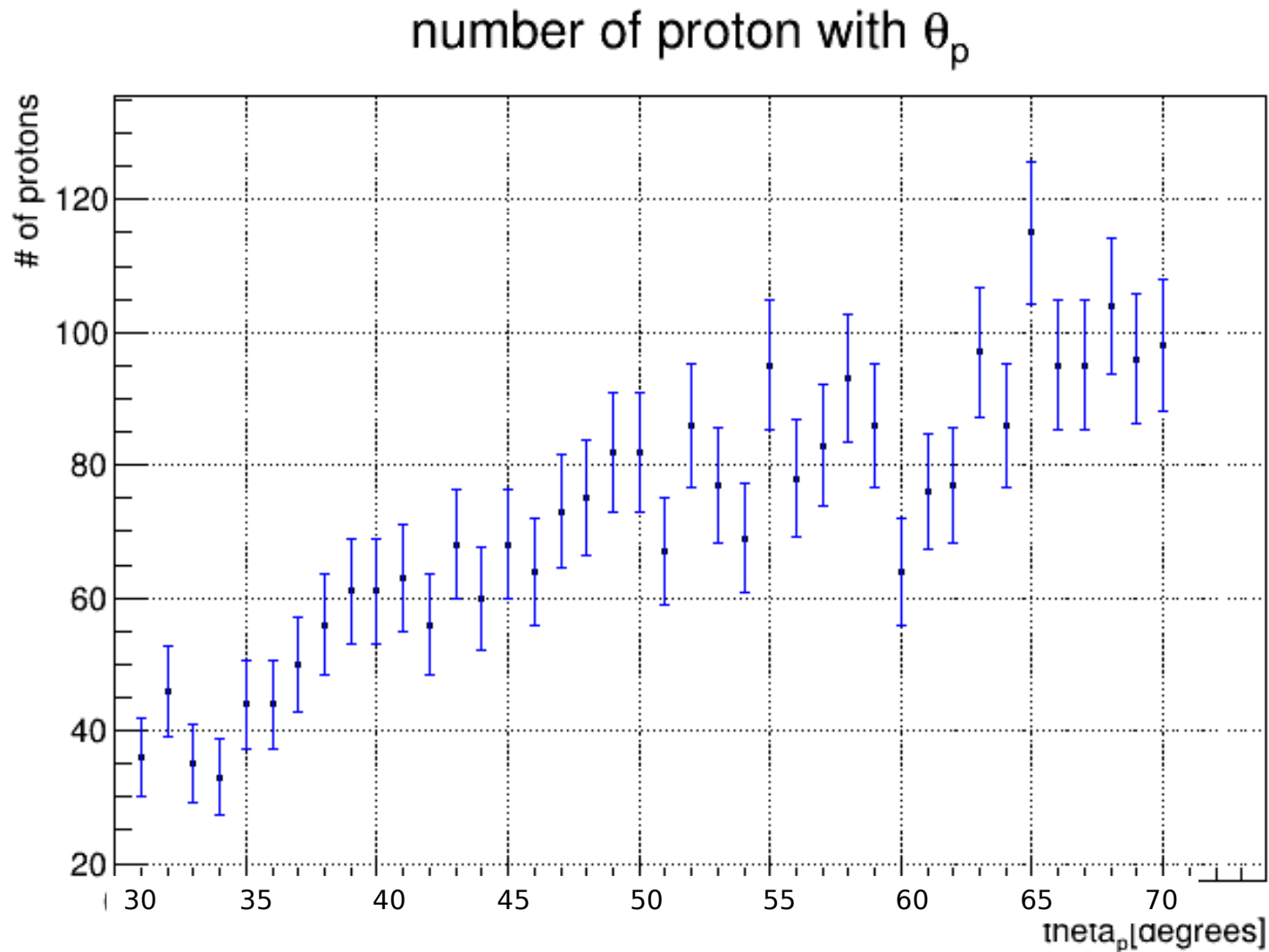
$30 \text{ deg} < \theta_p < 70 \text{ deg}$

$0.05 \text{ GeV} < P_{pr} < 0.4 \text{ GeV}$

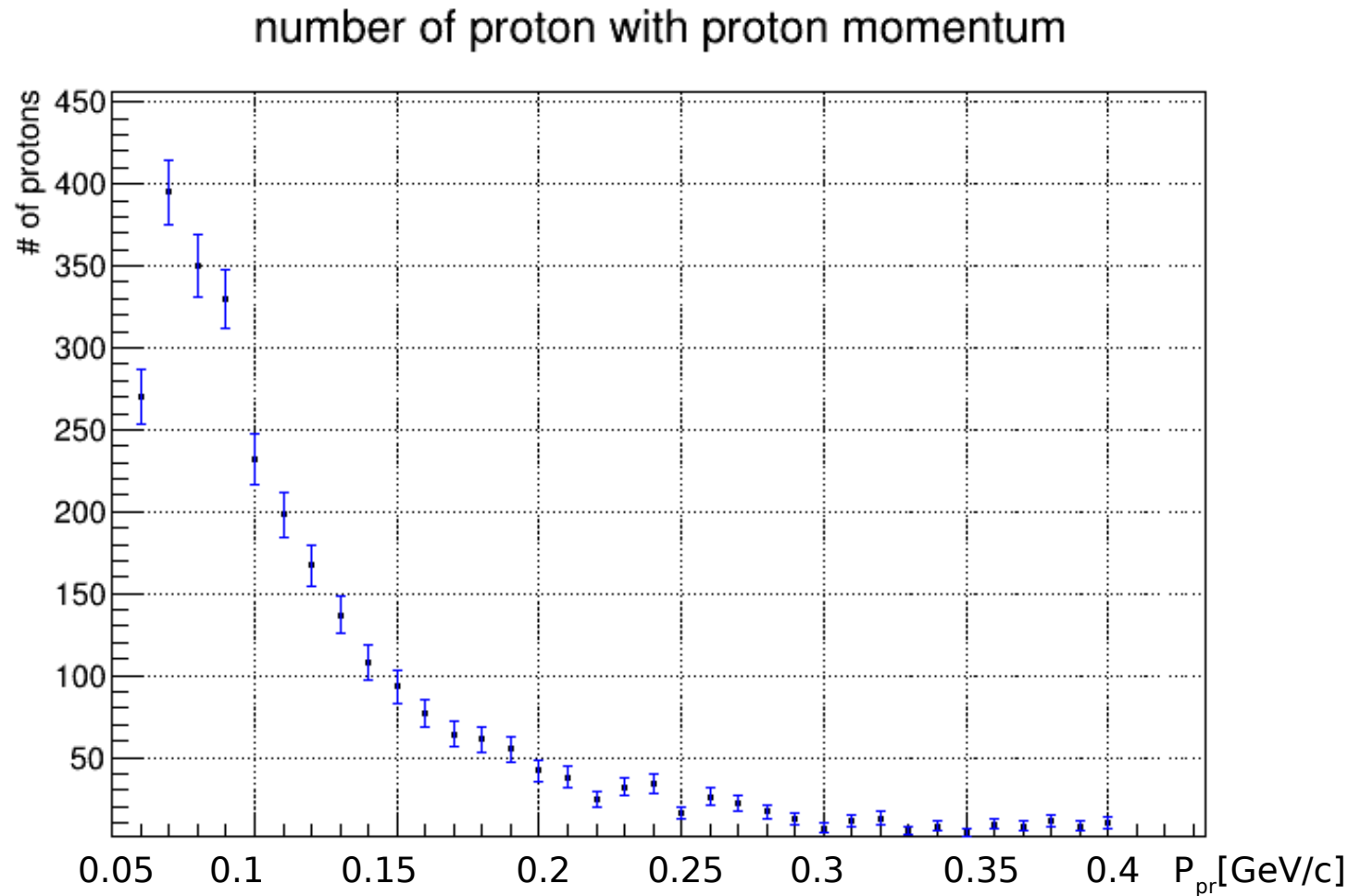
of entries :2894



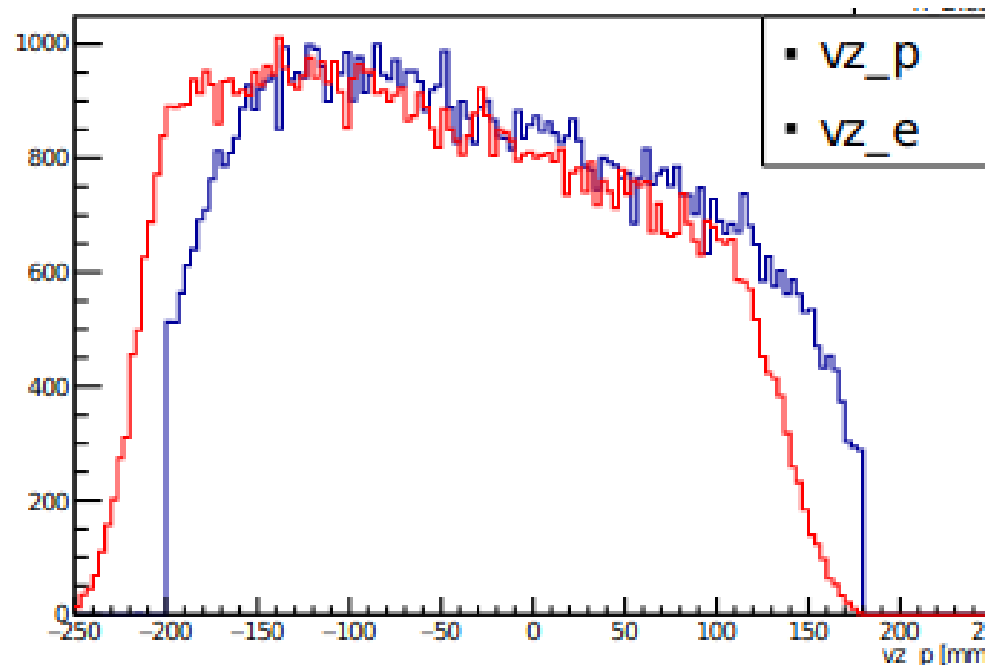
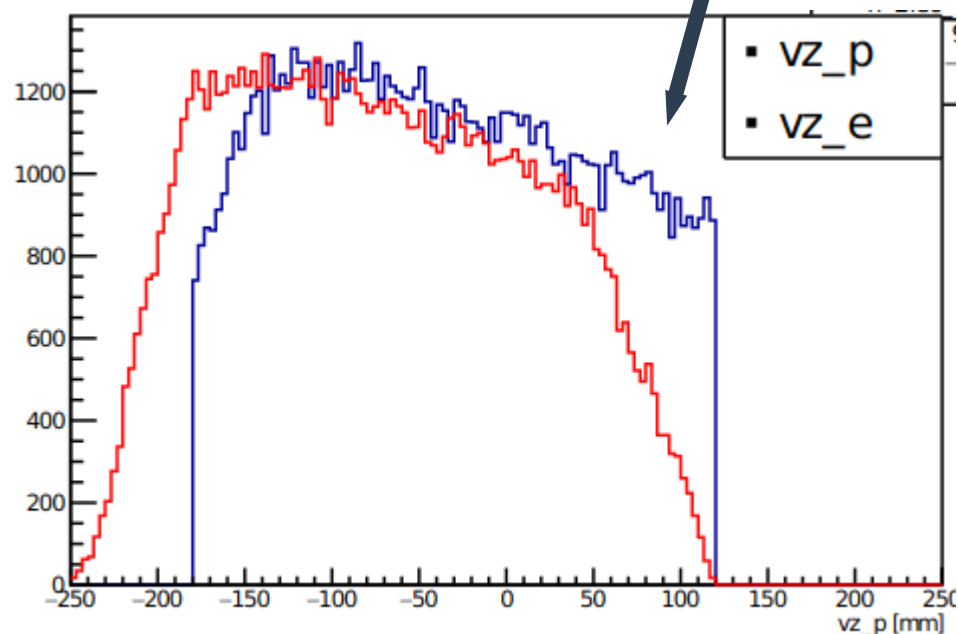
BONuS12 #of protons distribution with θ_p for TDIS range



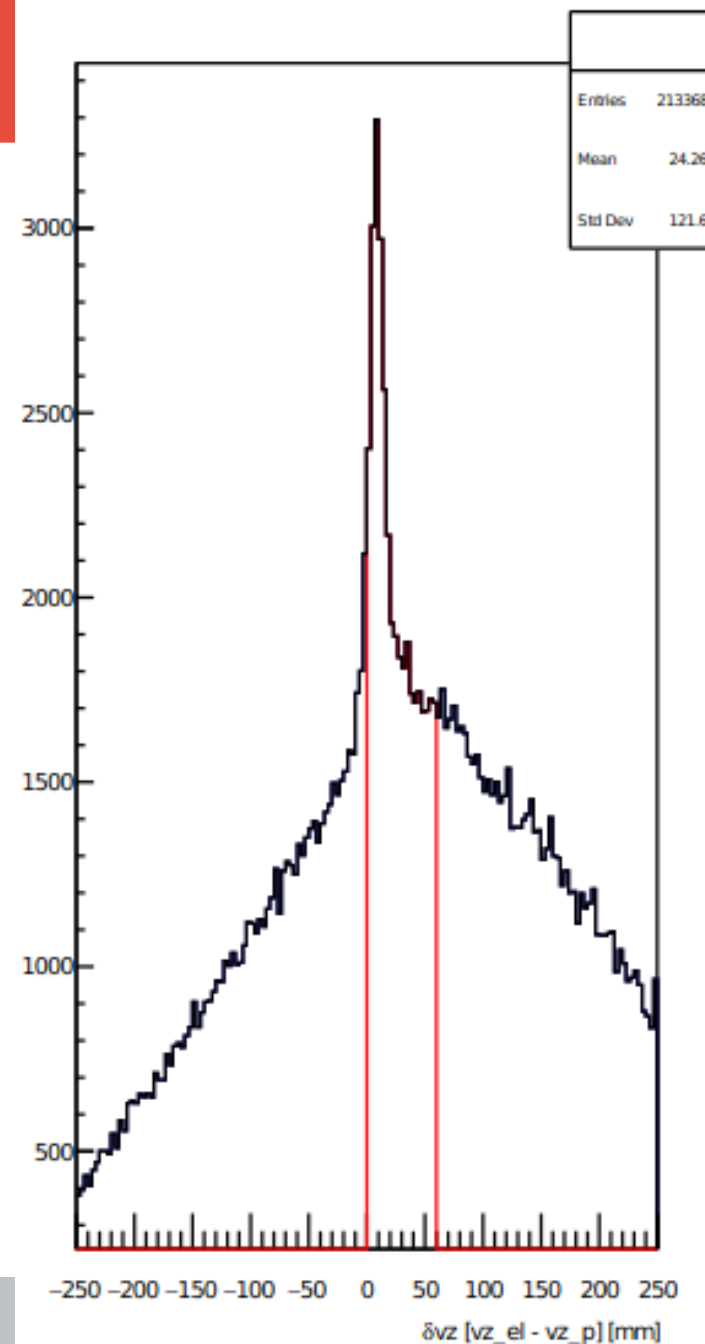
BONuS12 #of protons distribution with momentum for TDIS range



evzcut = Elec_vz1 > -18.0 and Elec_vz1 < 12.0;



**deltavzcut = deltavz > 0
and deltavz < 60;**

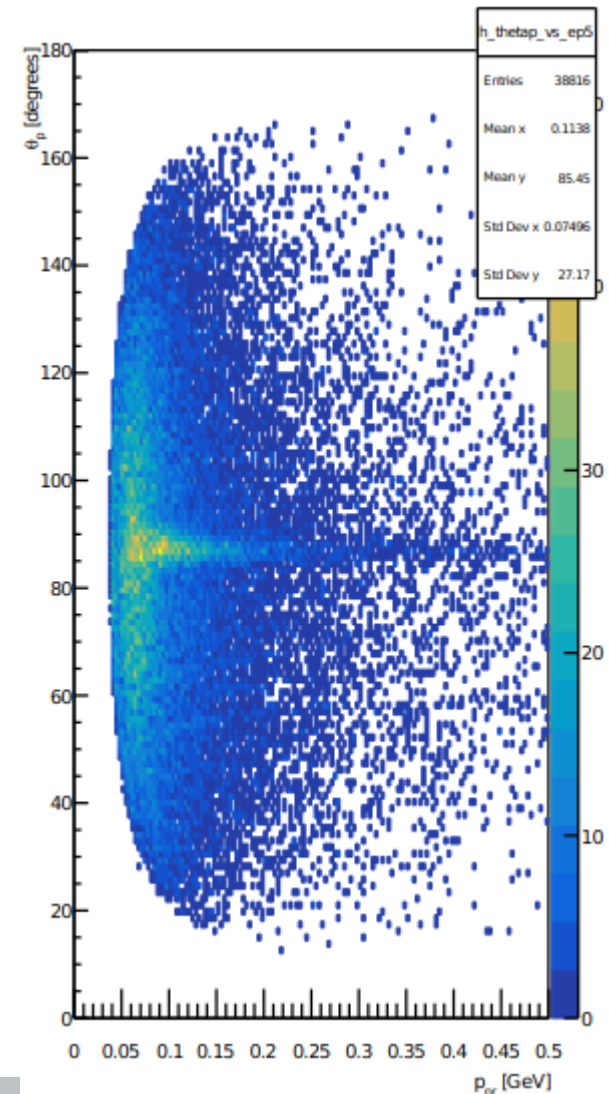


BONuS12 θ_p vs proton momentum after change vertex cut

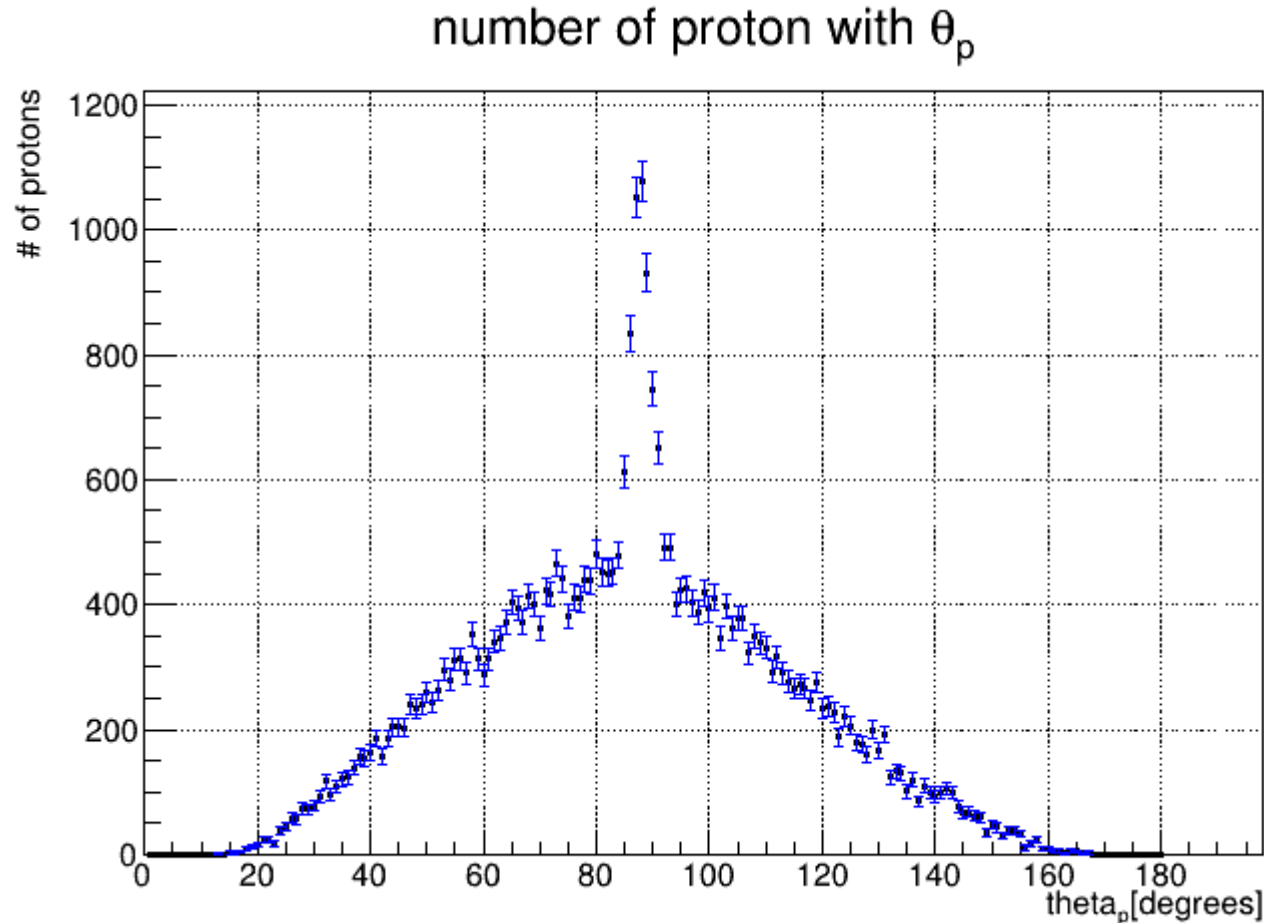
$0 \text{ deg} < \theta_p < 180 \text{ deg}$

$0 \text{ GeV} < P_{pr} < 0.5 \text{ GeV}$

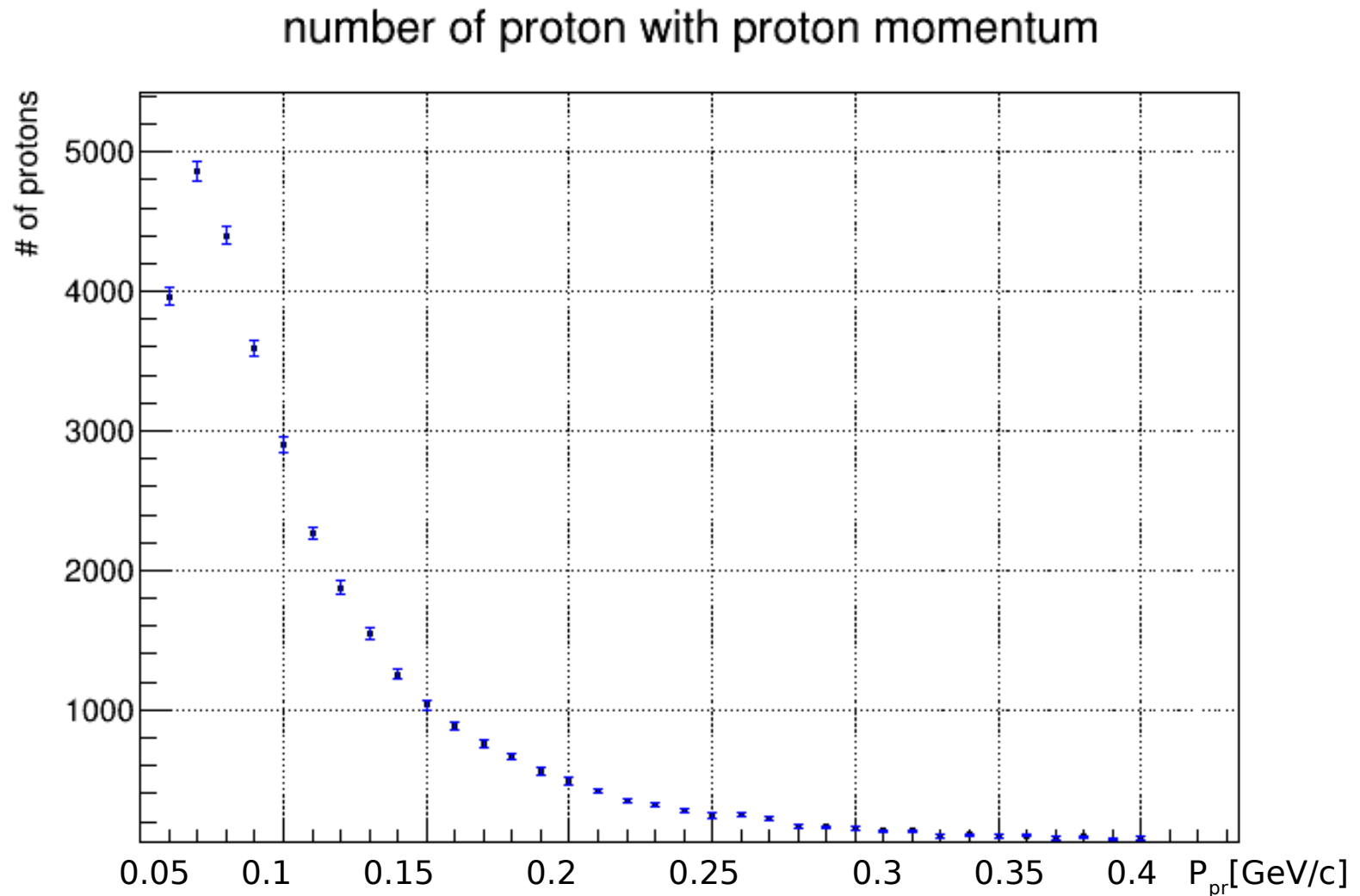
Number of entries: 38816



BONuS12 #of protons distribution with θ_p after change vertex cuts



BONuS12 #of protons distribution with momentum after change vertex cut

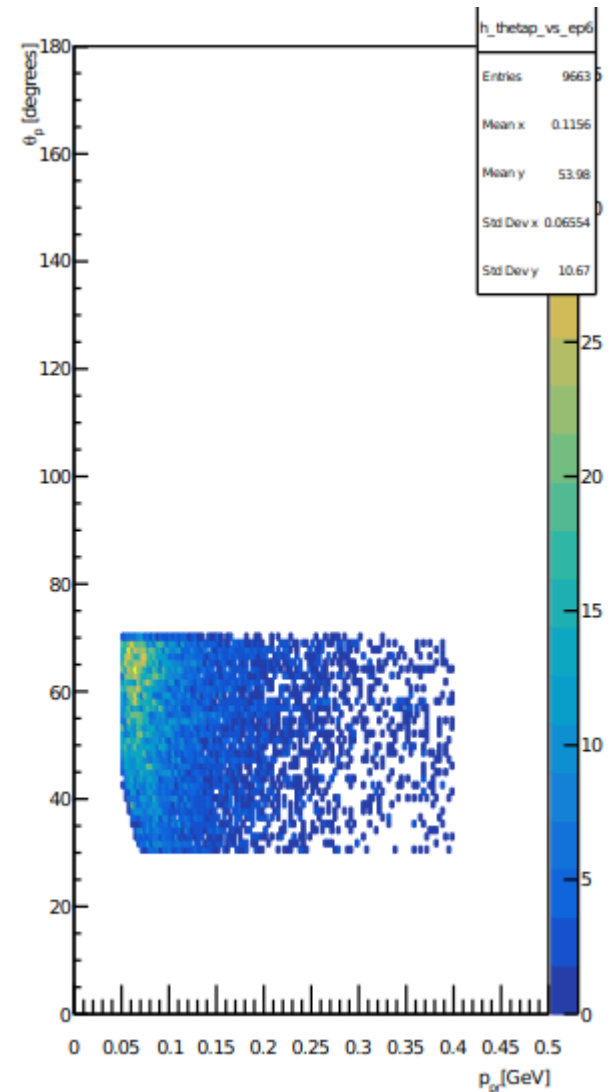


BONuS12 θ_p vs proton momentum after change vertex cut

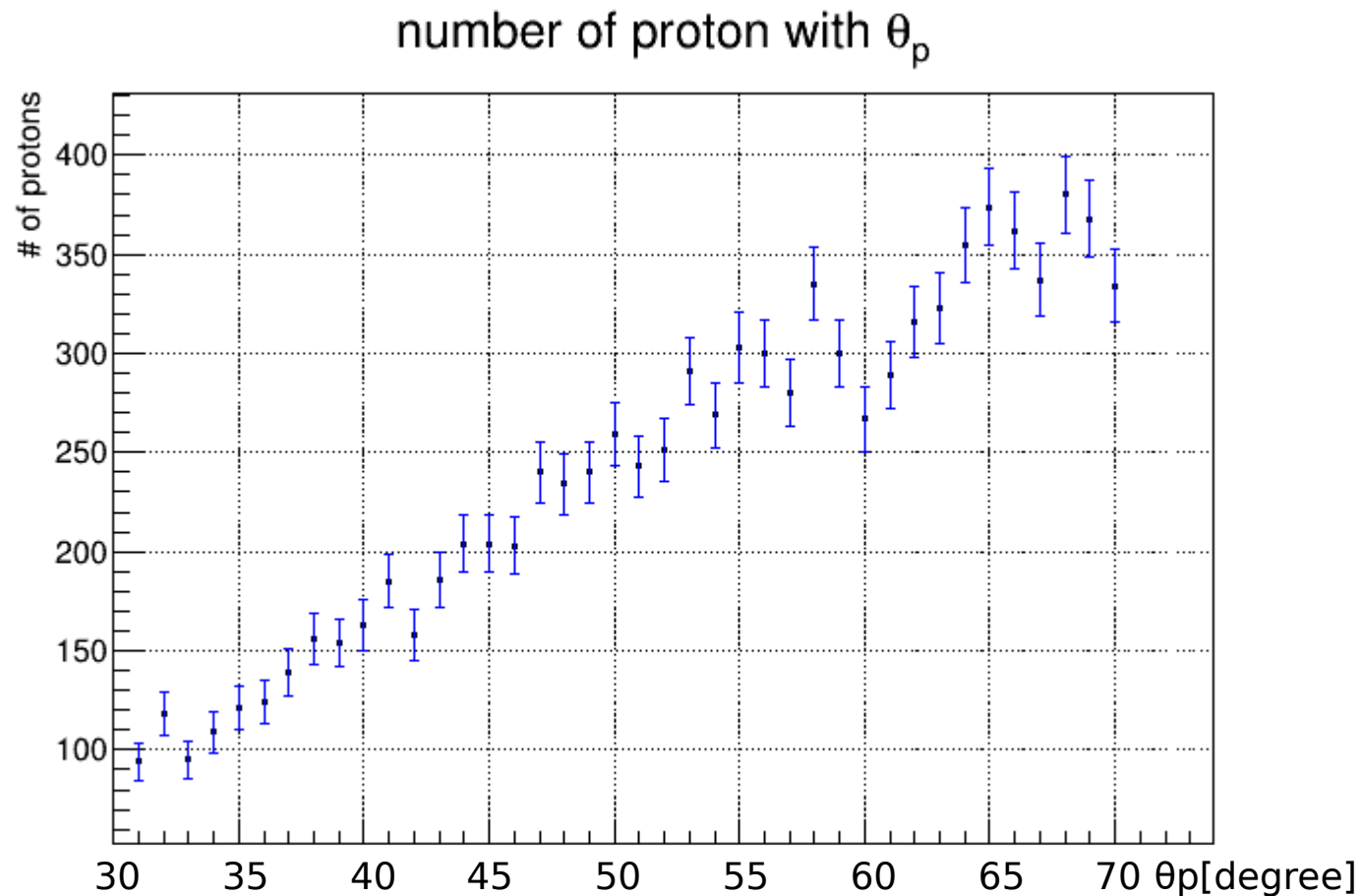
$30 \text{ deg} < \theta_p < 70 \text{ deg}$

$0.05 \text{ GeV} < P_{pr} < 0.4 \text{ GeV}$

of entries :9663



BONuS12 #of protons distribution with θ_p for TDIS range



BONuS12 #of protons distribution with momentum for TDIS range

number of proton with proton momentum

