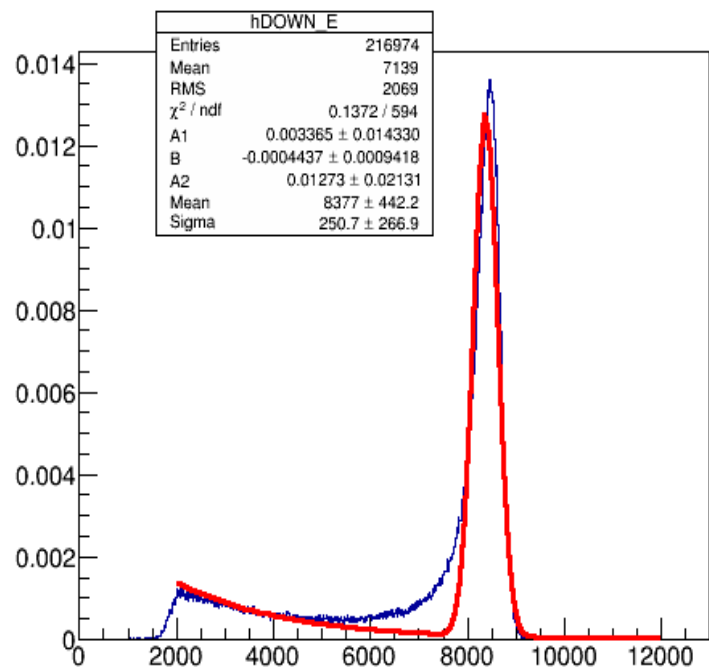
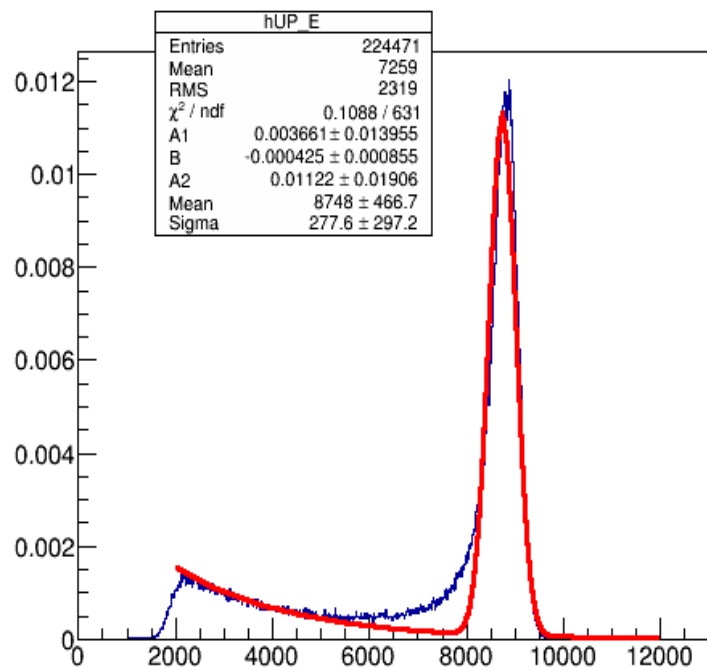
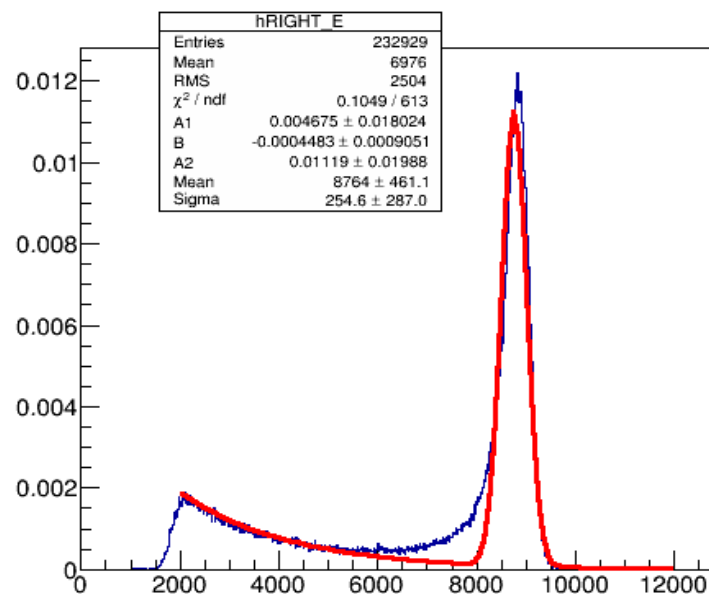
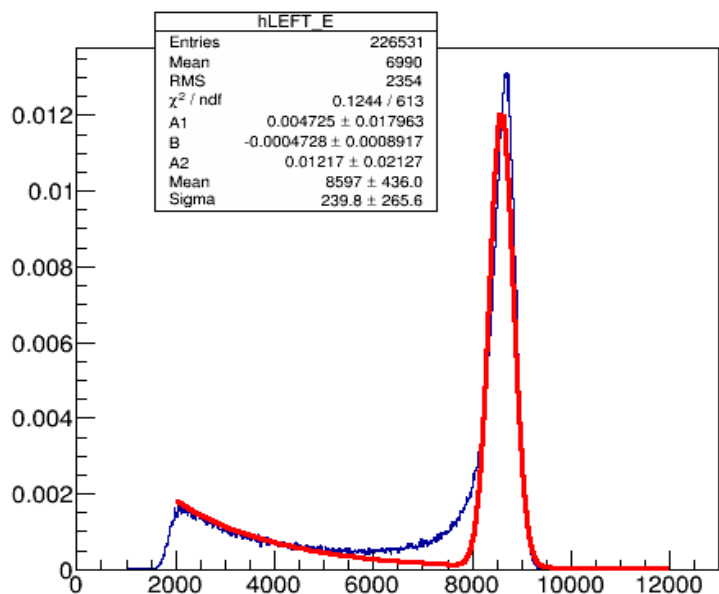


Mott Detector Energy Spectra (Normalized)

Au 5 um Foil – Run 7394



RunTime = 548s

Beam Current = 0.104857 uA

Beam Momentum = 5.699 MeV

1/2 Wave Plate = IN

N_LEFT_p = 58731

N_LEFT_m = 39892

N_RIGHT_p = 40036

N_RIGHT_m = 60398

N_UP_p = 51694

N_UP_m = 51826

N_DOWN_p = 54570

N_DOWN_m = 55417

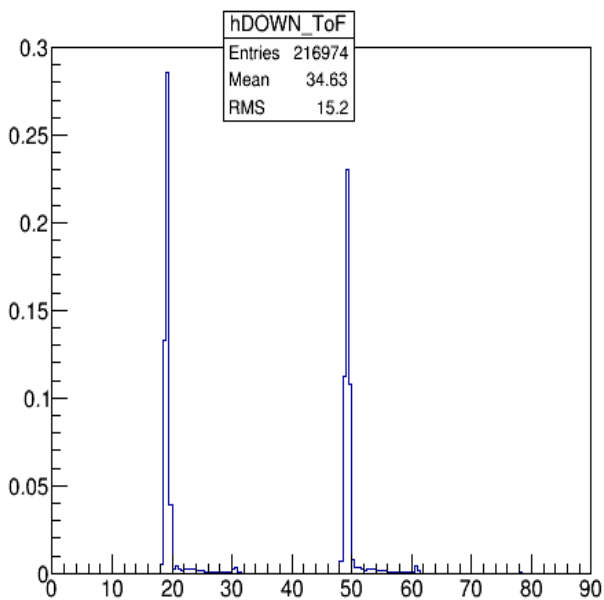
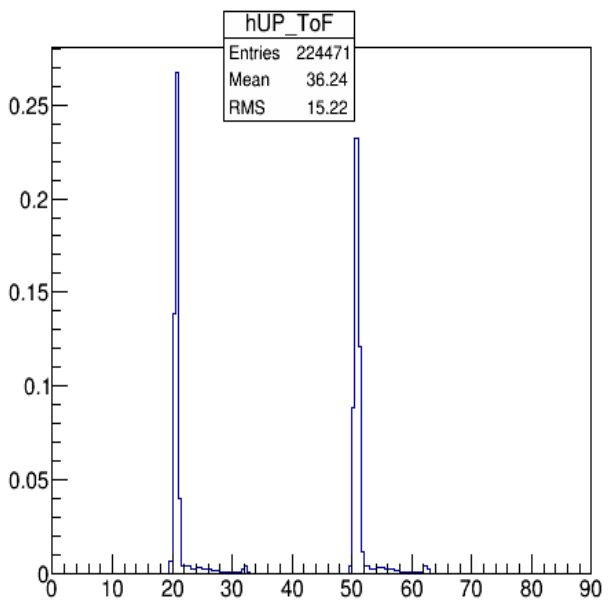
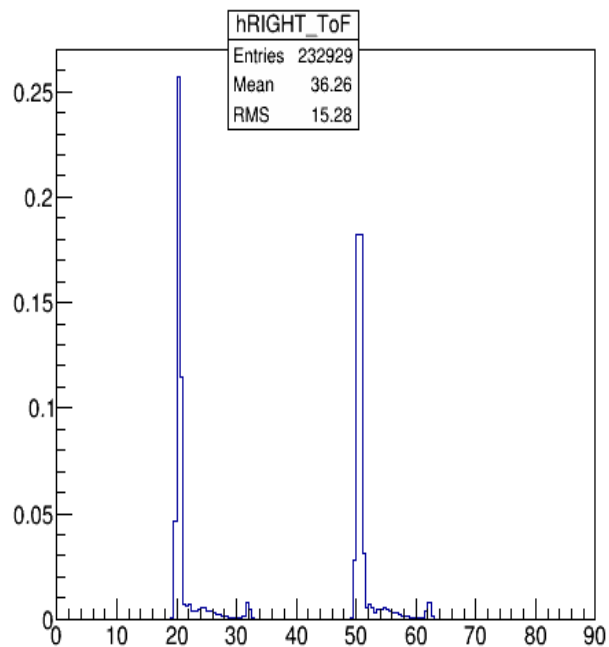
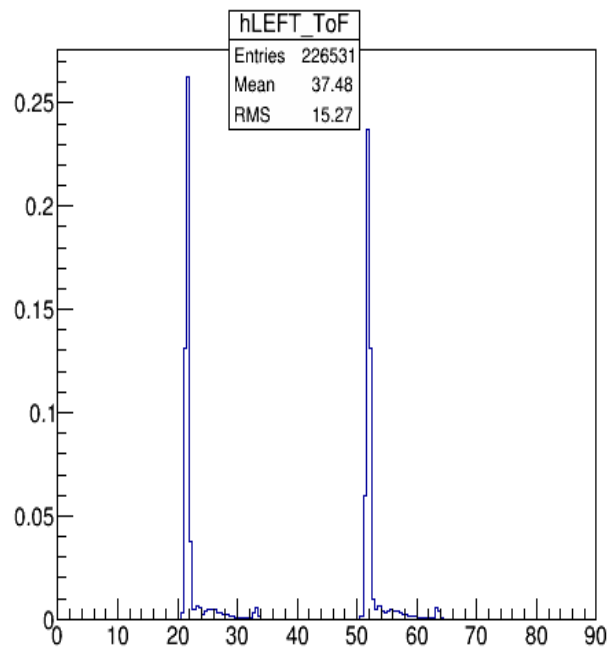
Horizontal Mott Asymmetry

Ax_phy (%) = -0.3213 ± 0.2165

Vertical Mott Asymmetry

Ay_phy (%) = -19.688 ± 0.2197

Mott Time of Flight Curves (TDC17 - TDC18)



*Fit Gaussian to known good time of flights in specified range

*First range – [18, 24]

*Second range – [48, 54]

* Fitting ranges also used for time of flight cuts

Mott Detector Energy Spectra (Normalized)

Au 1 um Foil – Run 7404

RunTime = 531s

Beam Current = 0.829845 uA

Beam Momentum = 5.699 MeV

1/2 Wave Plate = OUT

N_LEFT_p = 23821

N_LEFT_m = 48300

N_RIGHT_p = 51091

N_RIGHT_m = 24141

N_UP_p = 38787

N_UP_m = 37831

N_DOWN_p = 41156

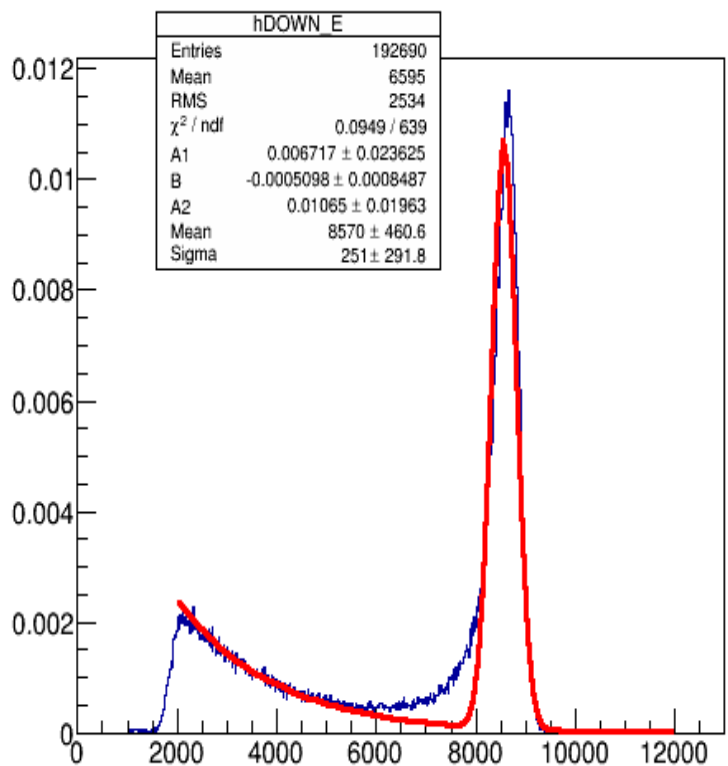
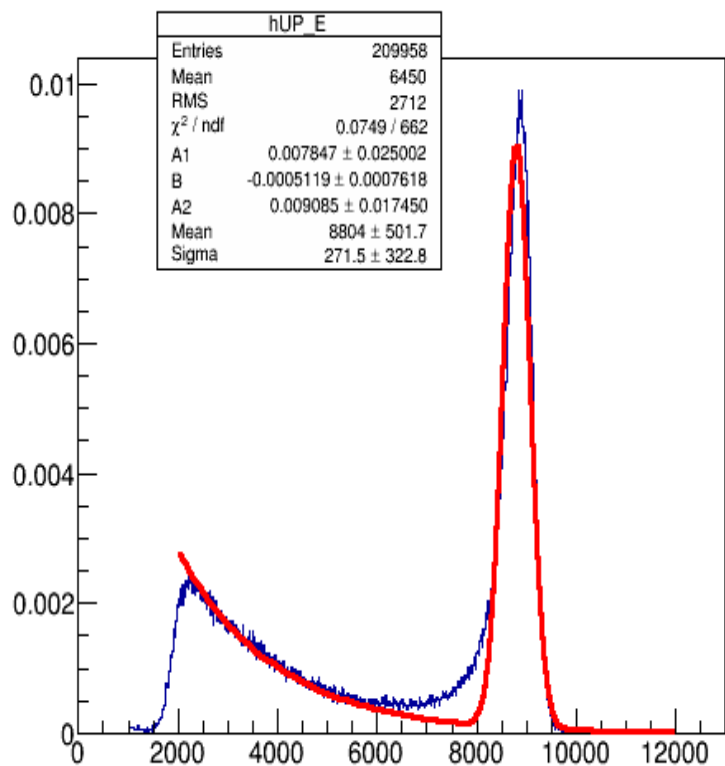
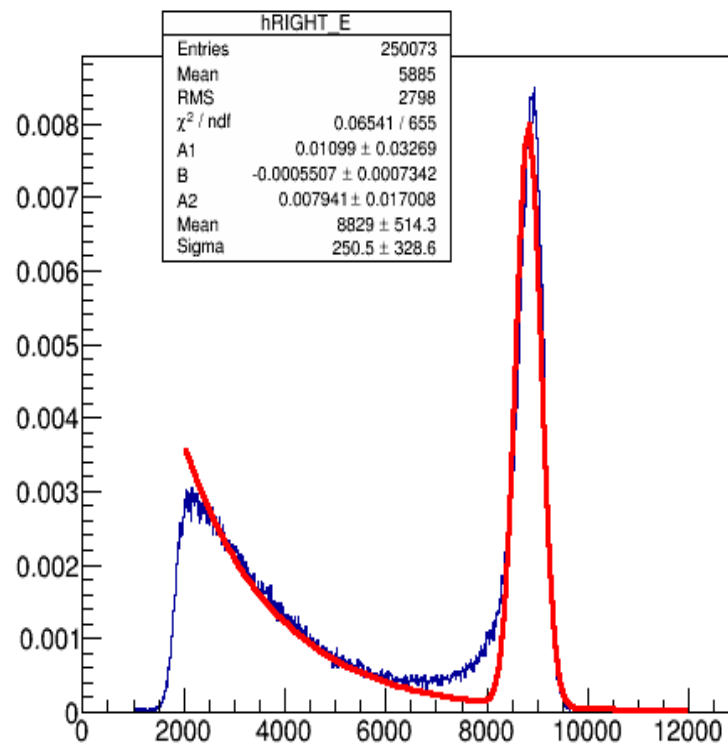
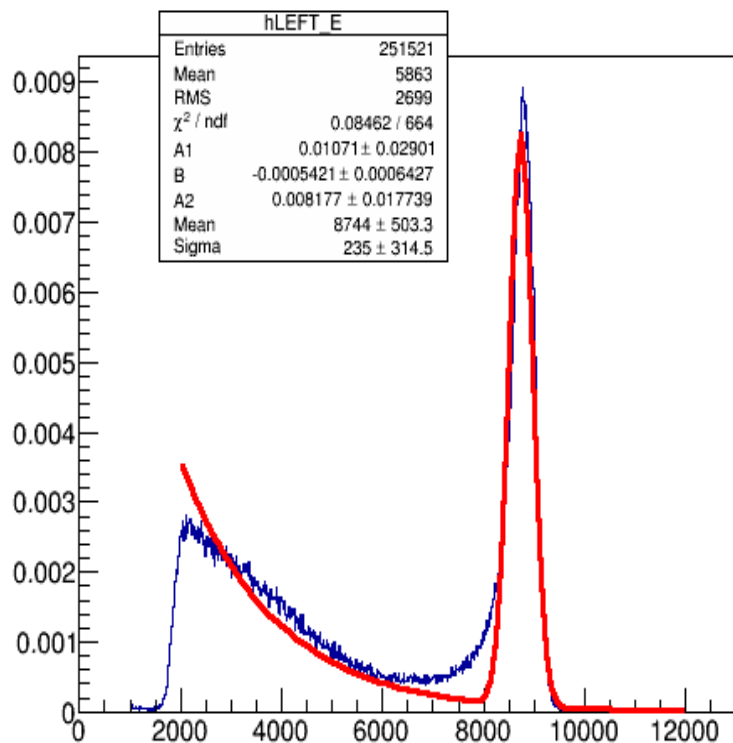
N_DOWN_m = 40418

Horizontal Mott Asymmetry

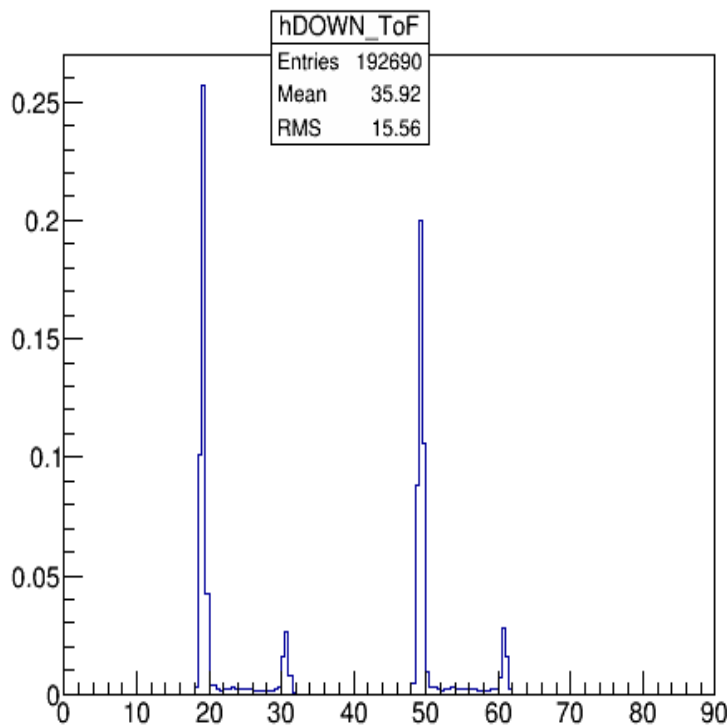
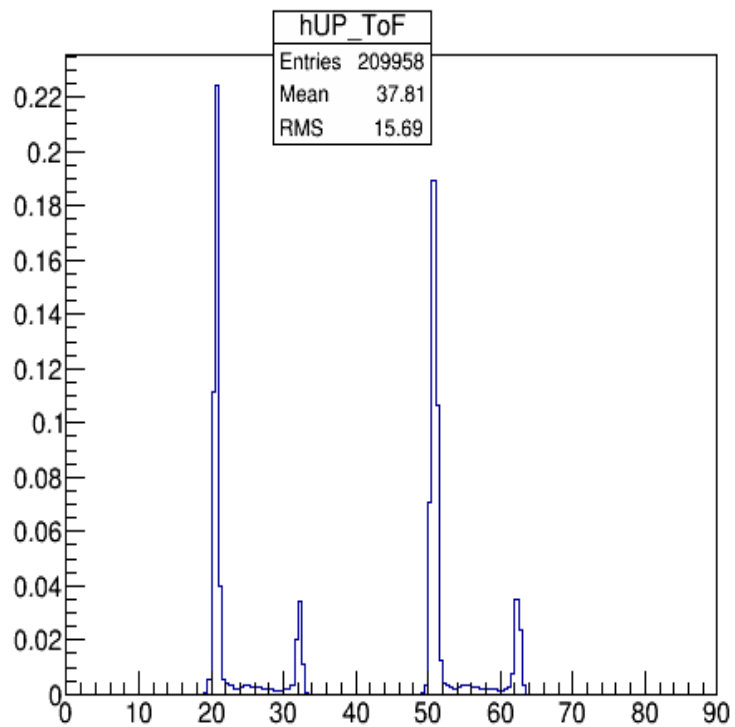
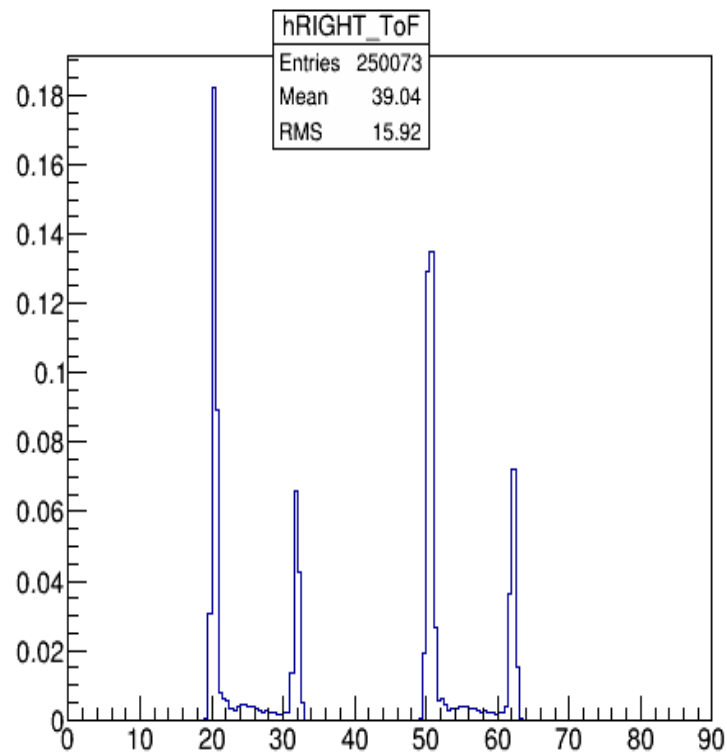
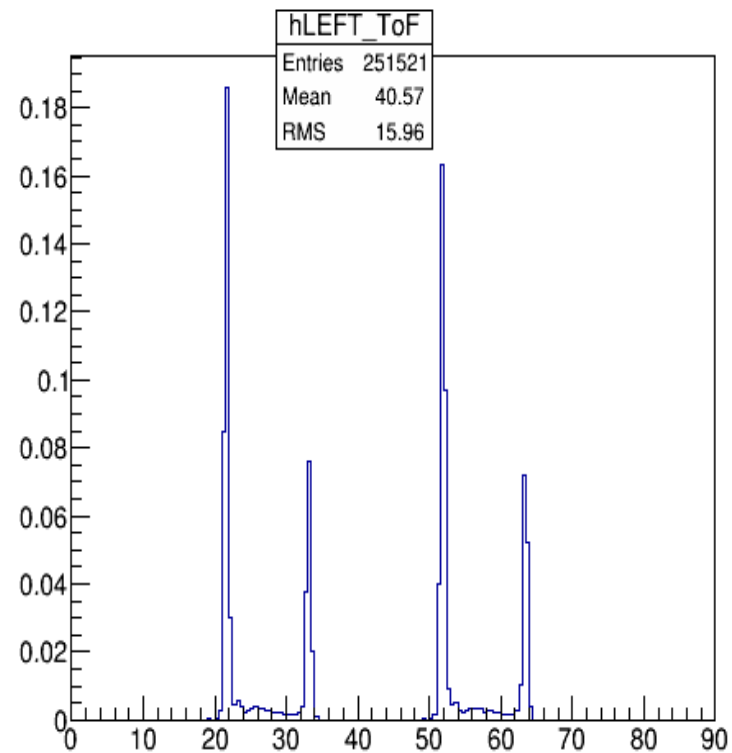
Ax_phy (%) = -0.1715 +/- 0.2515

Vertical Mott Asymmetry

Ay_phy (%) = 34.885 +/- 0.2441



Mott Time of Flight Curves (TDC17 - TDC18)



Mott Detector Energy Spectra (Normalized)

Au 0.75 um Foil – Run 7410

RunTime = 520s

Beam Current = 1.10433 uA

Beam Momentum = 5.699 MeV

1/2 Wave Plate = IN

N_LEFT_p = 46071

N_LEFT_m = 21783

N_RIGHT_p = 22345

N_RIGHT_m = 48276

N_UP_p = 35600

N_UP_m = 36458

N_DOWN_p = 37428

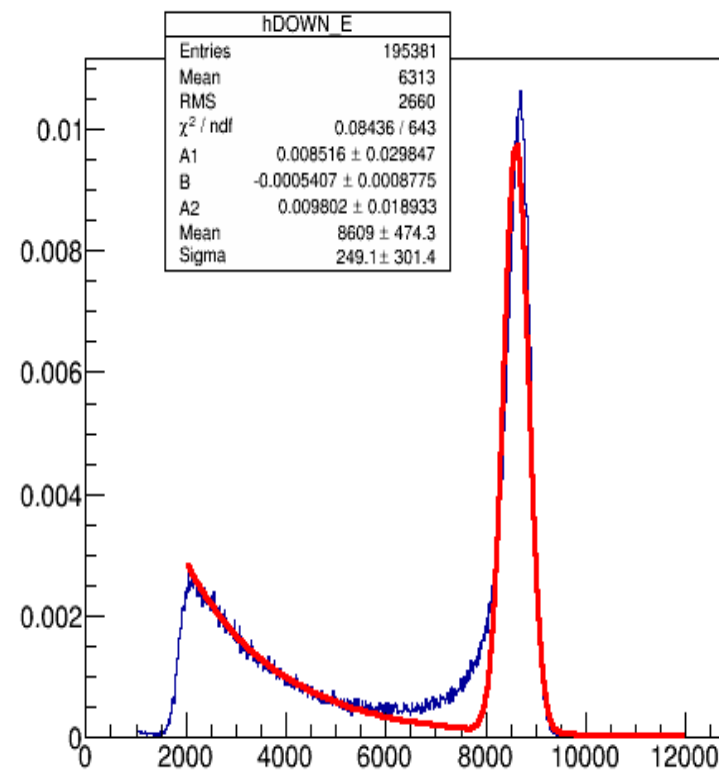
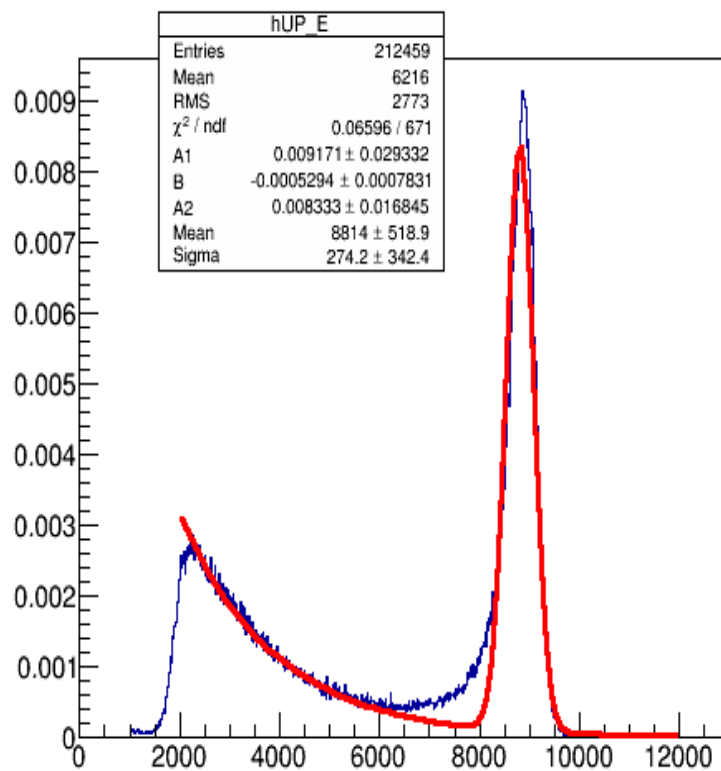
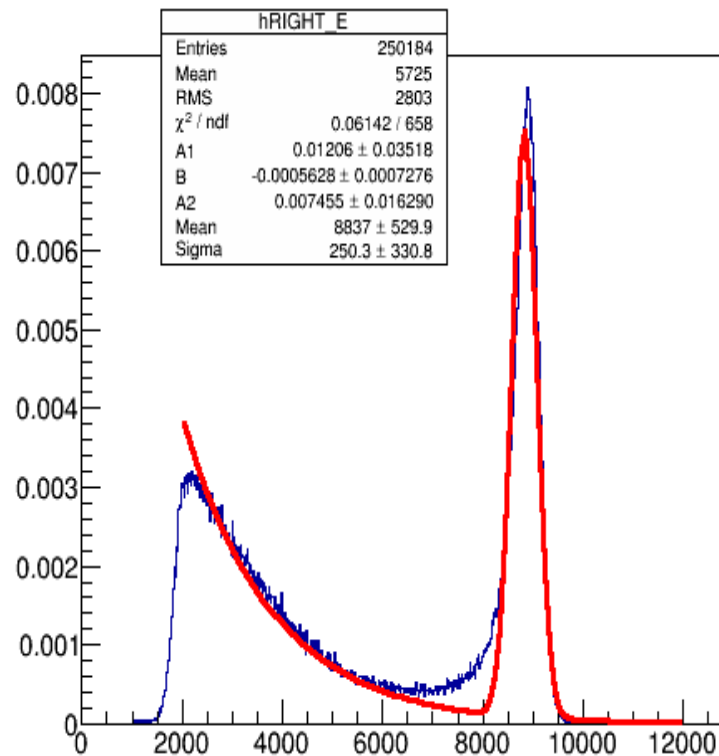
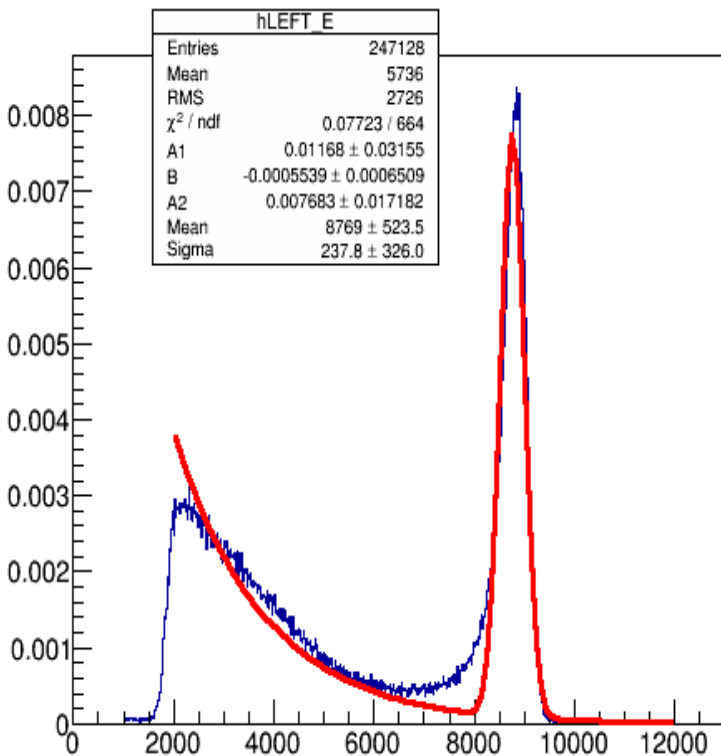
N_DOWN_m = 38176

Horizontal Mott Asymmetry

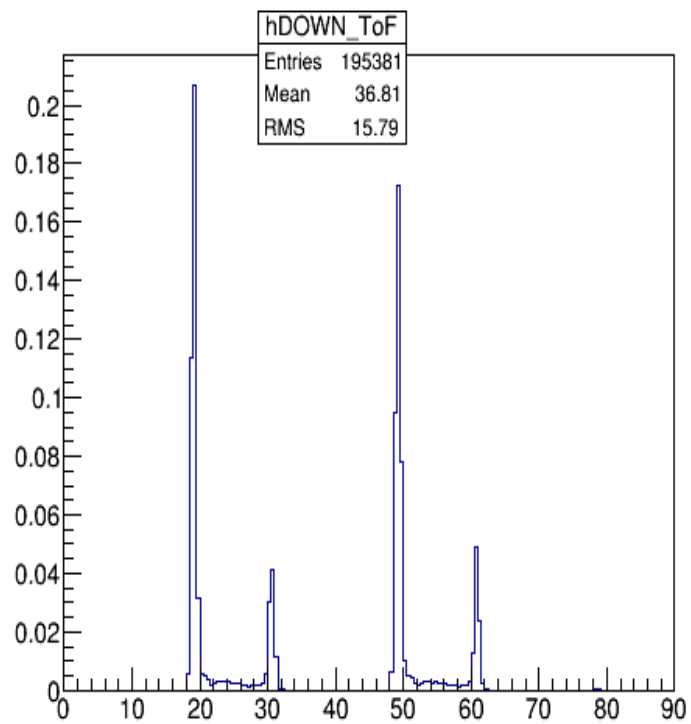
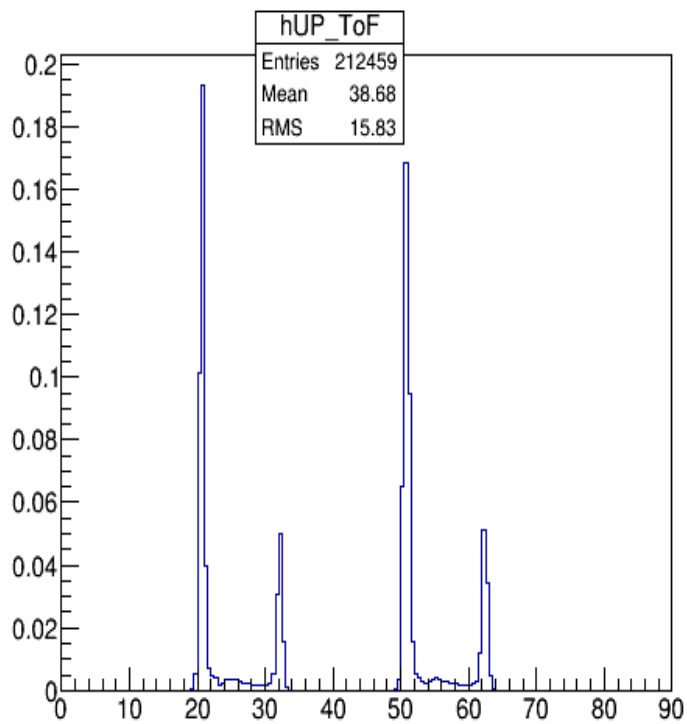
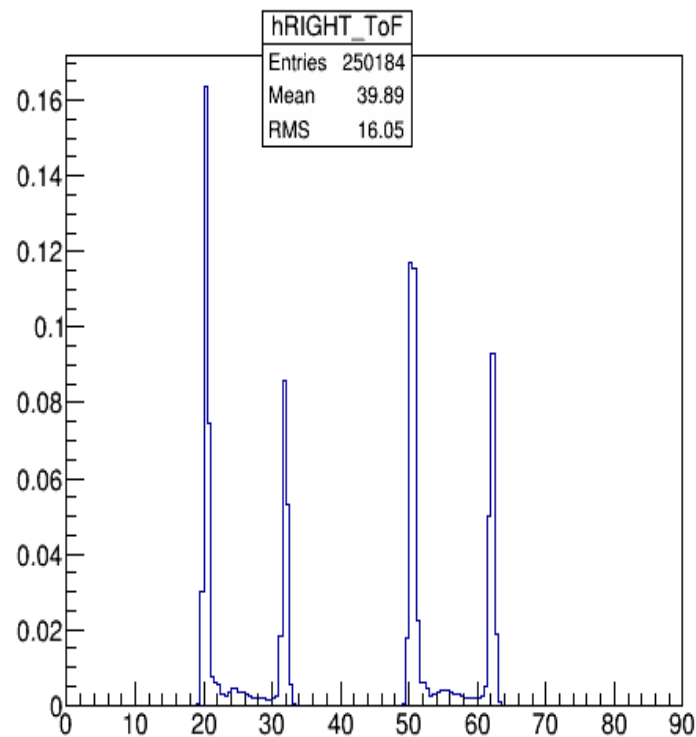
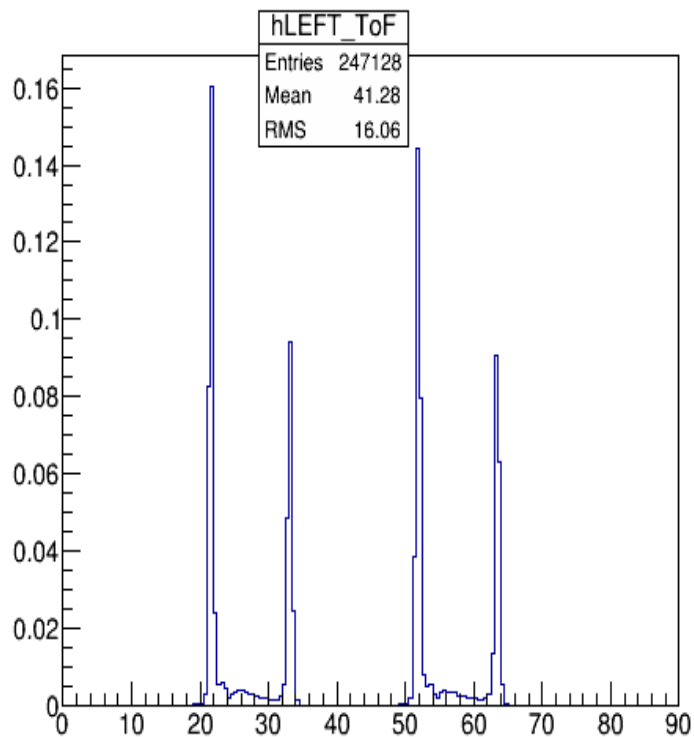
Ax_Phy (%) = 0.10068 +/- 0.26032

Vertical Mott Asymmetry

Ay_phy (%) = -36.2574 +/- 0.250488



Mott Time of Flight Curves (TDC17 - TDC18)



Mott Detector Energy Spectra (Normalized)

Au 0.5 um Foil – Run 7416

RunTime = 559s

Beam Current = 1.57633 uA

Beam Momentum = 5.699 MeV

1/2 Wave Plate = OUT

N_LEFT_p = 17016

N_LEFT_m = 39426

N_RIGHT_p = 41246

N_RIGHT_m = 17671

N_UP_p = 30793

N_UP_m = 29199

N_DOWN_p = 31910

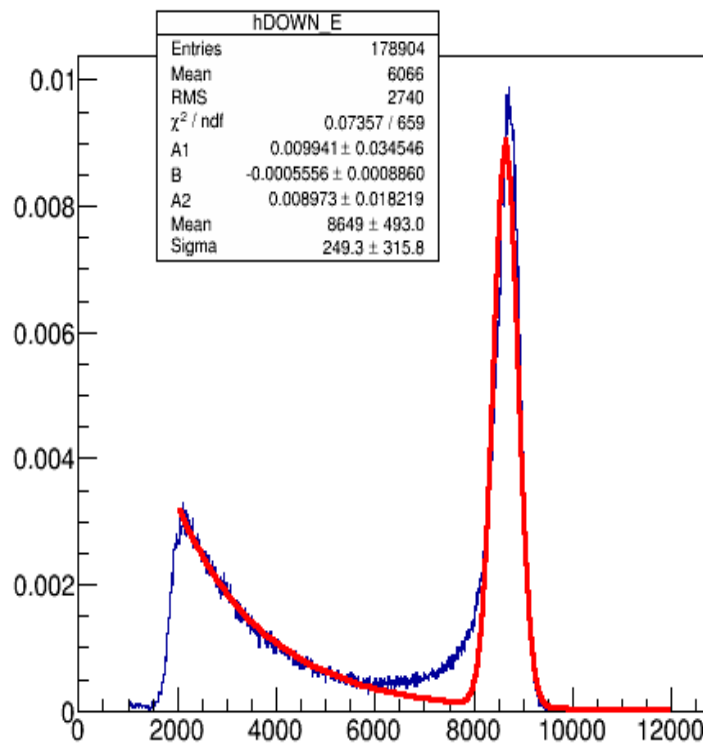
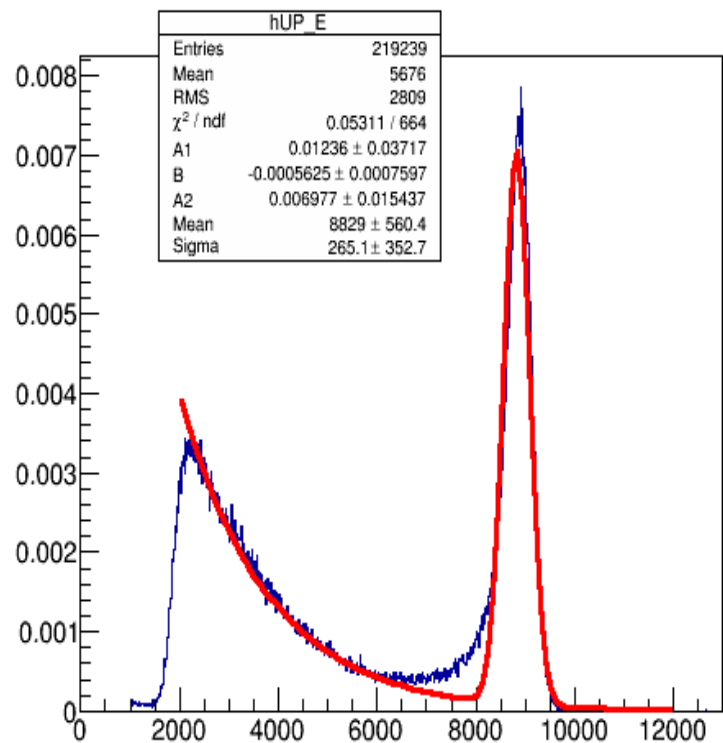
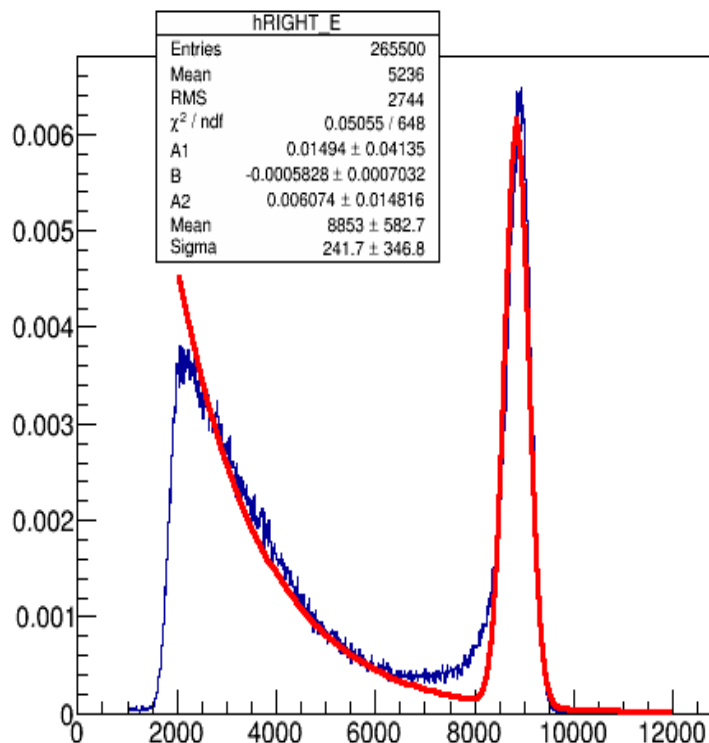
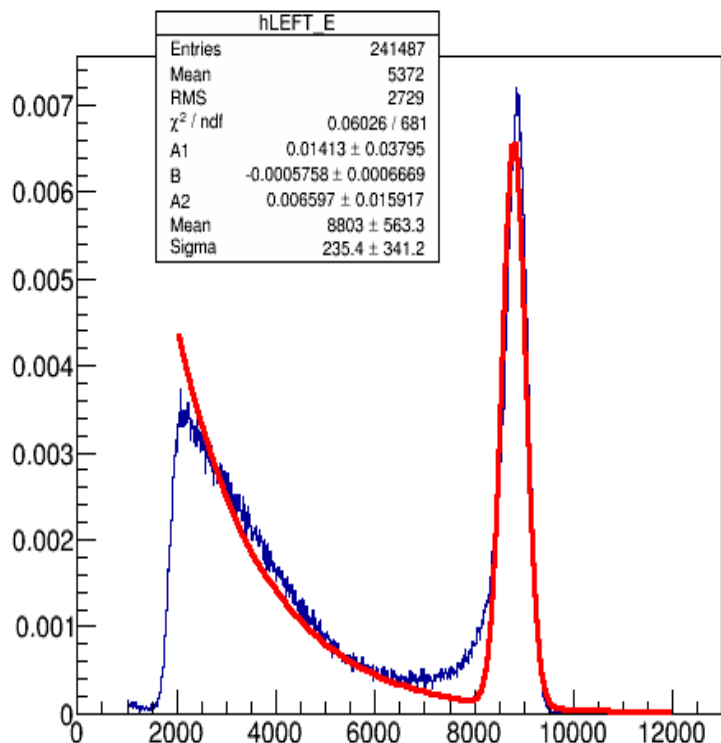
N_DOWN_m = 31508

Horizontal Mott Asymmetry

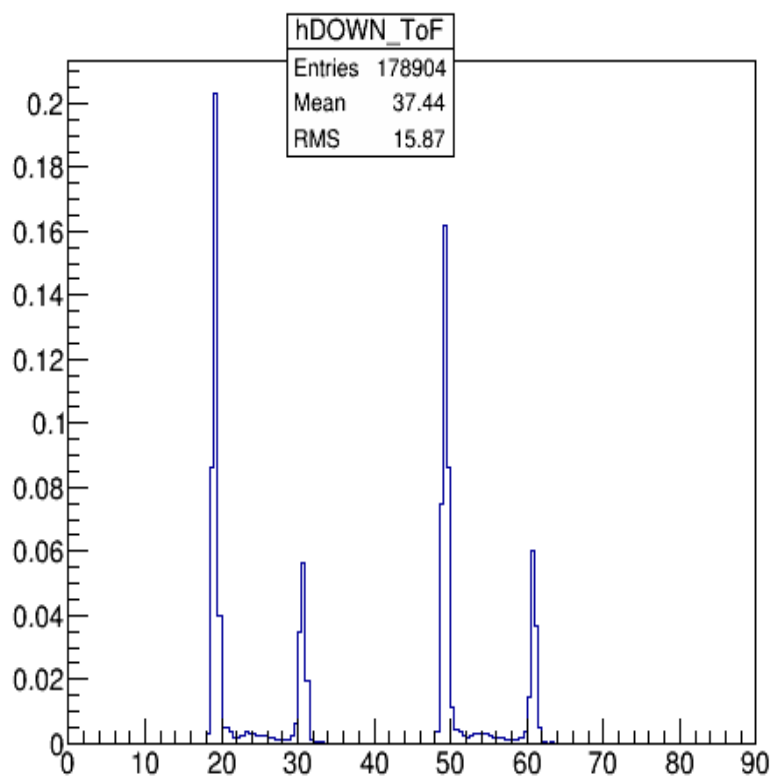
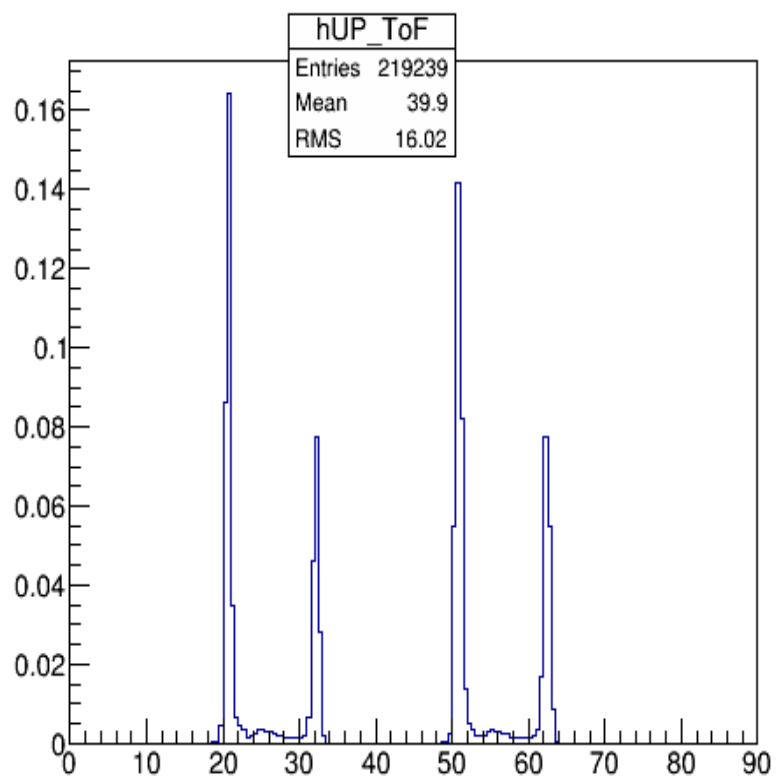
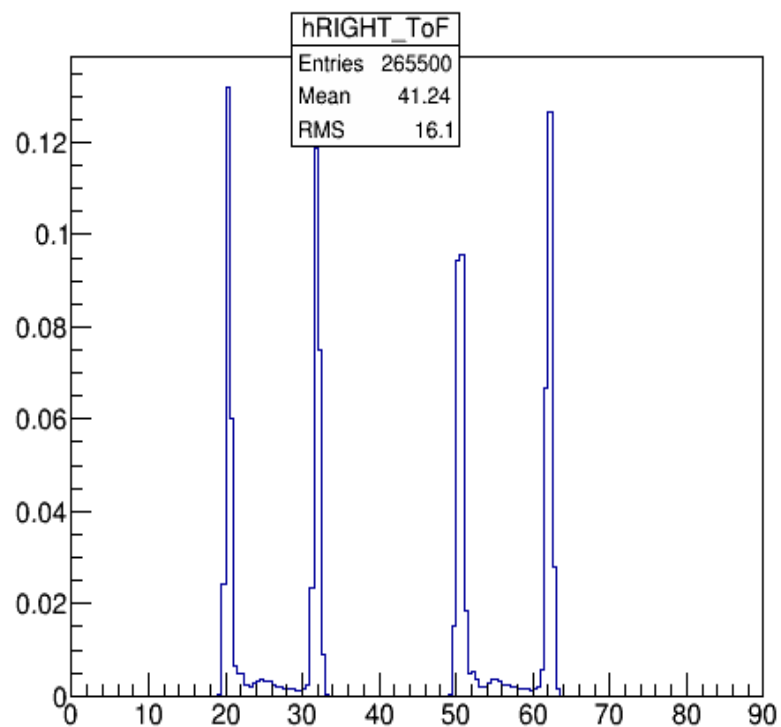
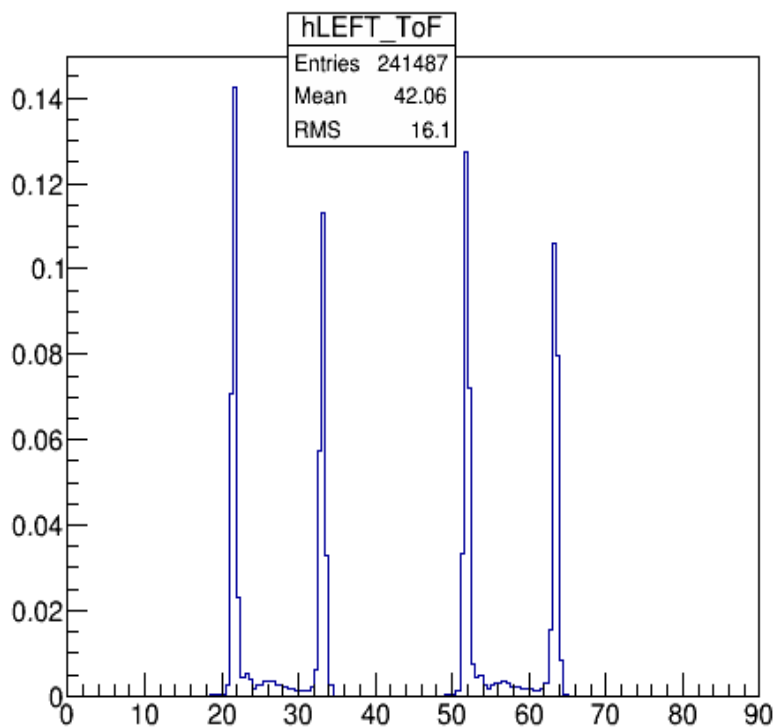
Ax_Phy (%) = -1.01184 +/- 0.284794

Vertical Mott Asymmetry

Ay_phy (%) = 39.8593 +/- 0.270084



**Mott Time of Flight
Curves
(TDC17 - TDC18)**



Mott Detector Energy Spectra (Normalized)

Au 0.35 um Foil – Run 7424

RunTime = 529s

Beam Current = 1.90962 uA

Beam Momentum = 5.699 MeV

1/2 Wave Plate = IN

N_LEFT_p = 37686

N_LEFT_m = 16193

N_RIGHT_p = 16647

N_RIGHT_m = 39751

N_UP_p = 28277

N_UP_m = 29351

N_DOWN_p = 30135

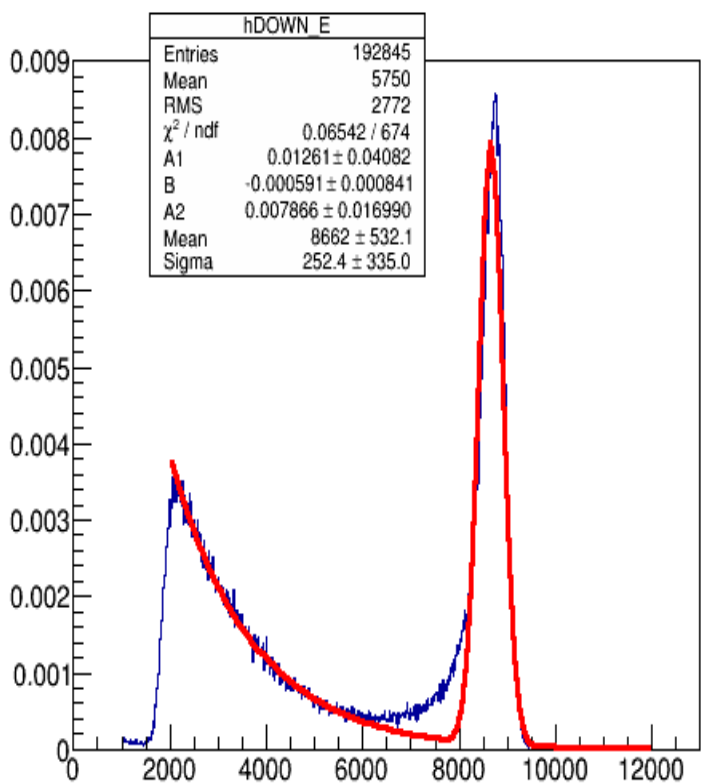
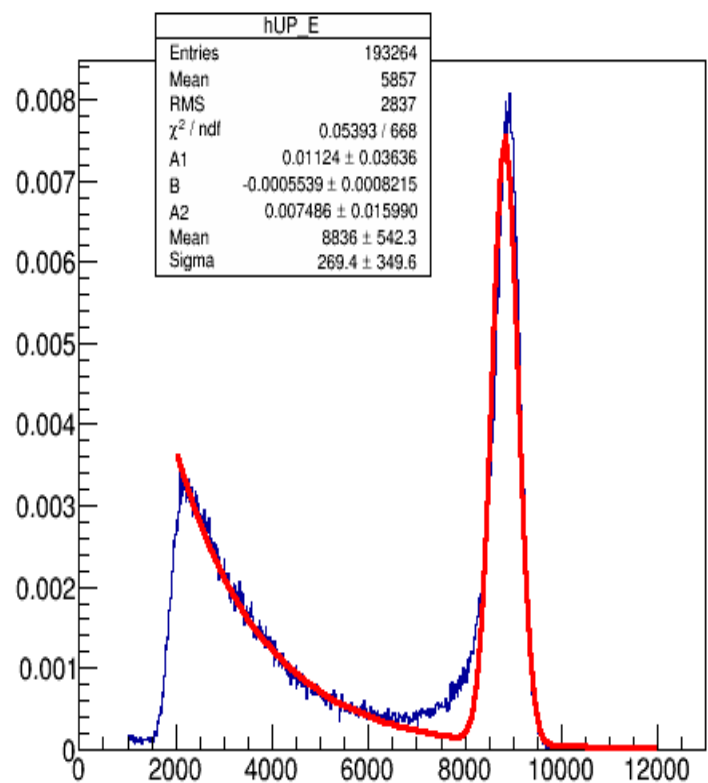
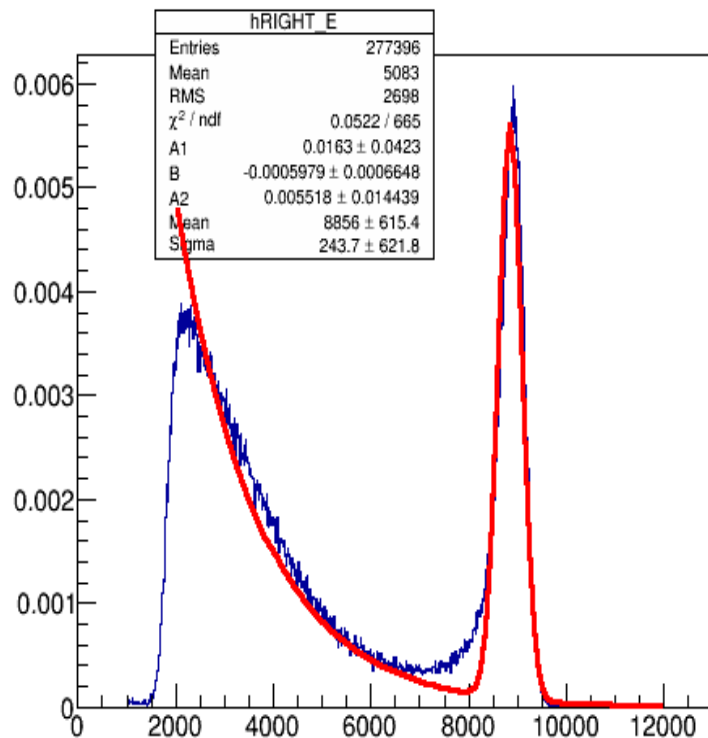
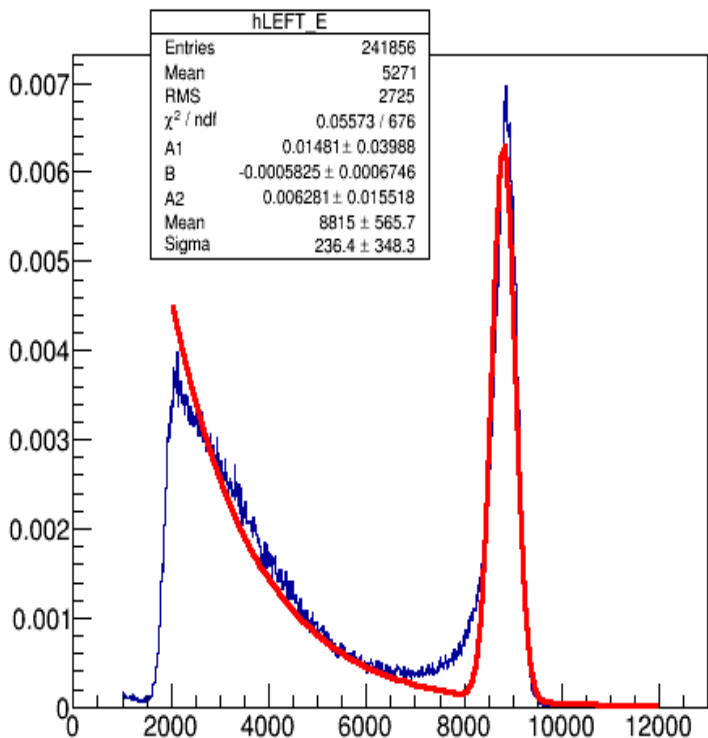
N_DOWN_m = 30794

Horizontal Mott Asymmetry

Ax_Phy (%) = 0.39113 +/- 0.290569

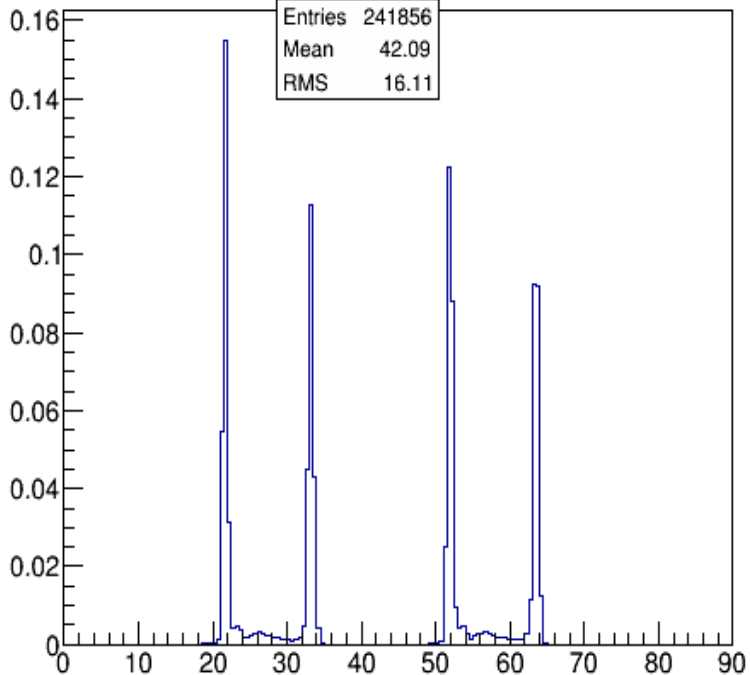
Vertical Mott Asymmetry

Ay_phy (%) = -40.43 +/- 0.275486

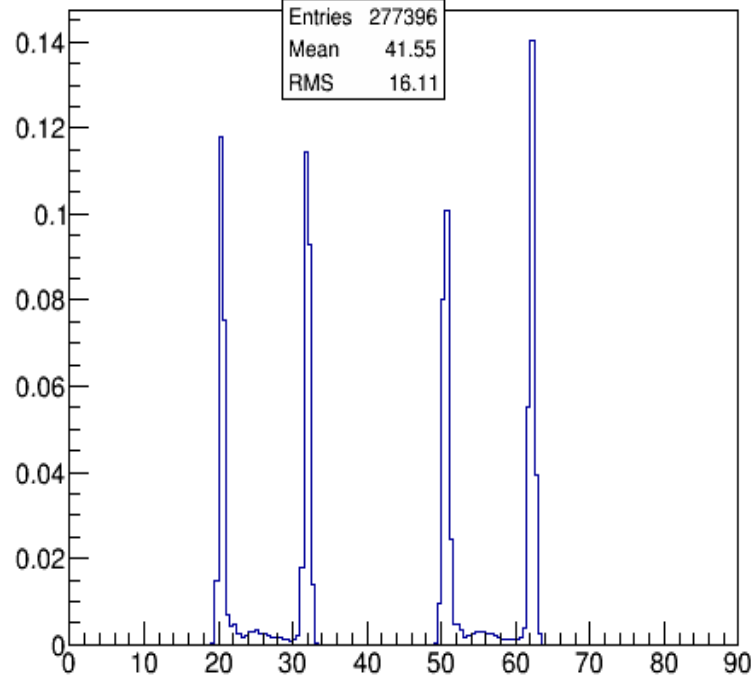


**Mott Time of Flight
Curves
(TDC17 - TDC18)**

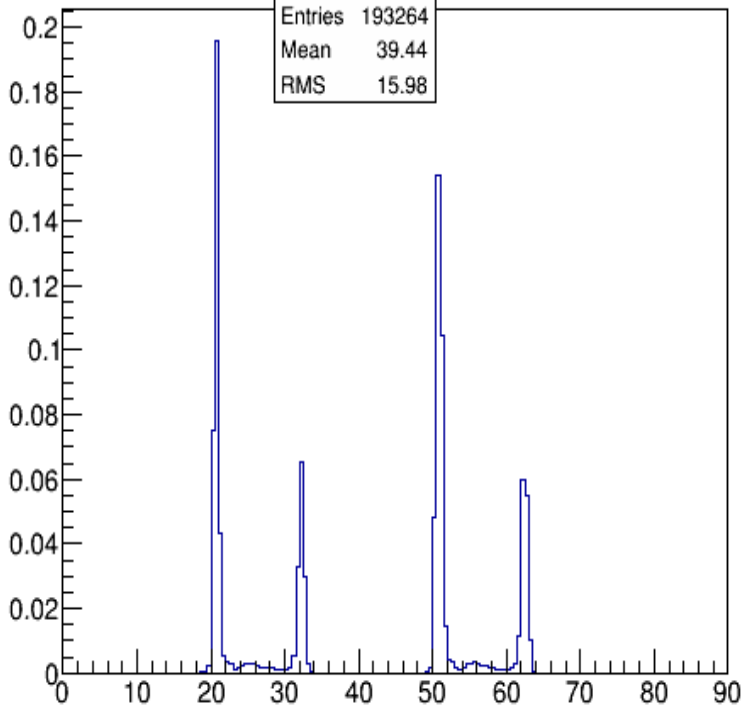
hLEFT_ToF
Entries 241856
Mean 42.09
RMS 16.11



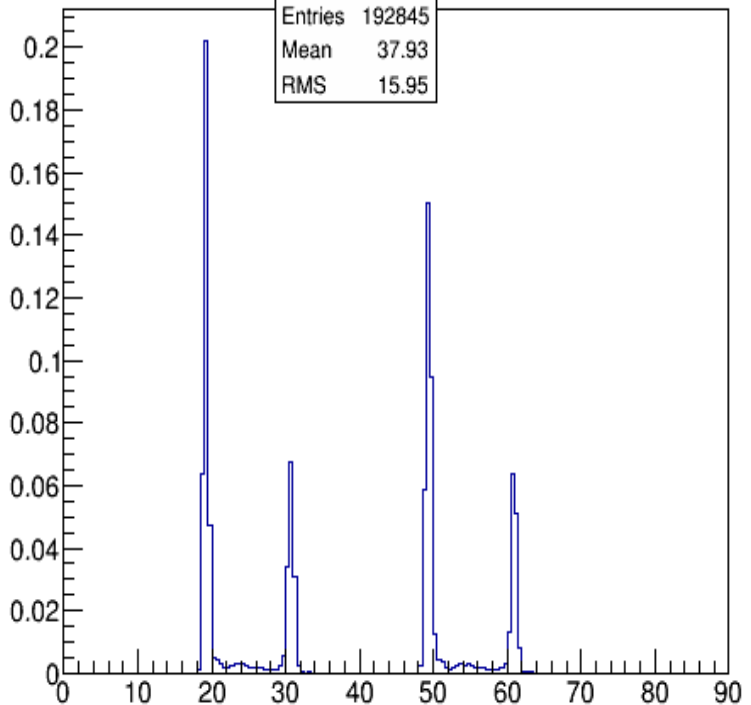
hRIGHT_ToF
Entries 277396
Mean 41.55
RMS 16.11



hUP_ToF
Entries 193264
Mean 39.44
RMS 15.98



hDOWN_ToF
Entries 192845
Mean 37.93
RMS 15.95



Mott Detector Energy Spectra (Normalized)

Au 0.05 (1) um Foil – Run 7428

RunTime = 1211s

Beam Current = 2.64848 uA

Beam Momentum = 5.699 MeV

1/2 Wave Plate = IN

N_LEFT_p = 16196

N_LEFT_m = 6338

N_RIGHT_p = 6151

N_RIGHT_m = 15876

N_UP_p = 11591

N_UP_m = 11908

N_DOWN_p = 12322

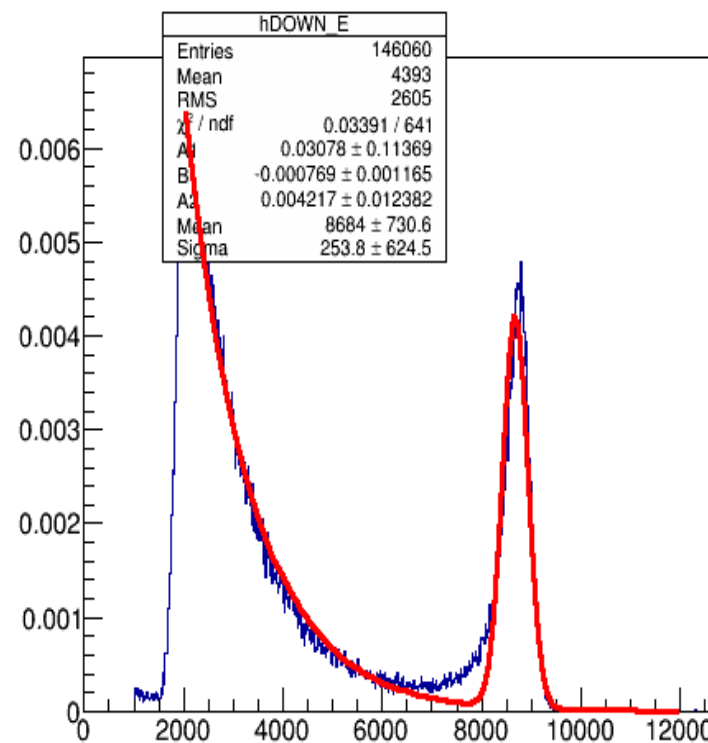
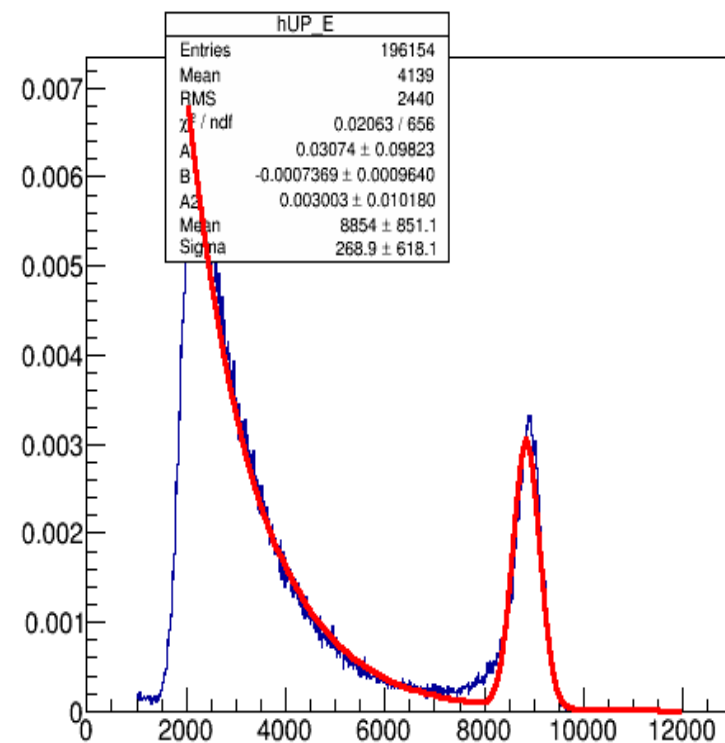
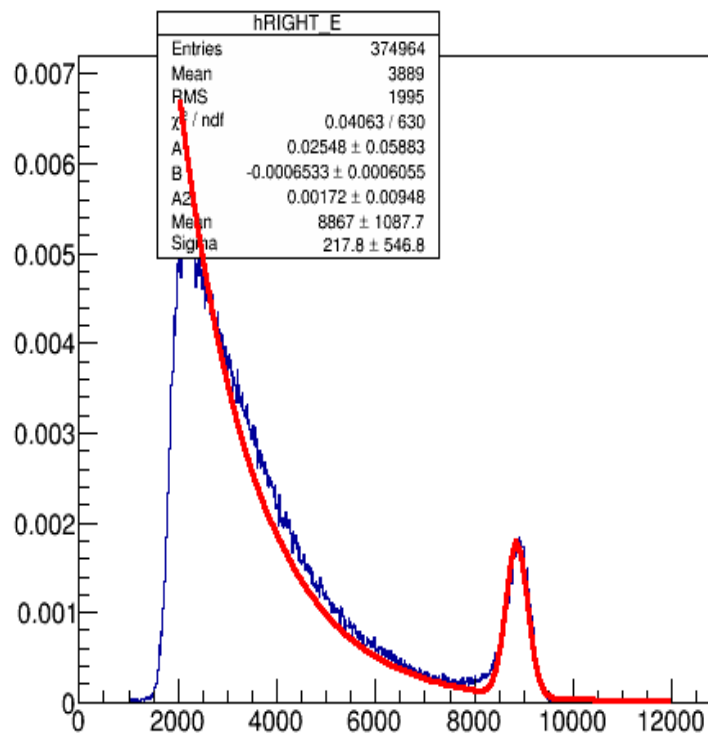
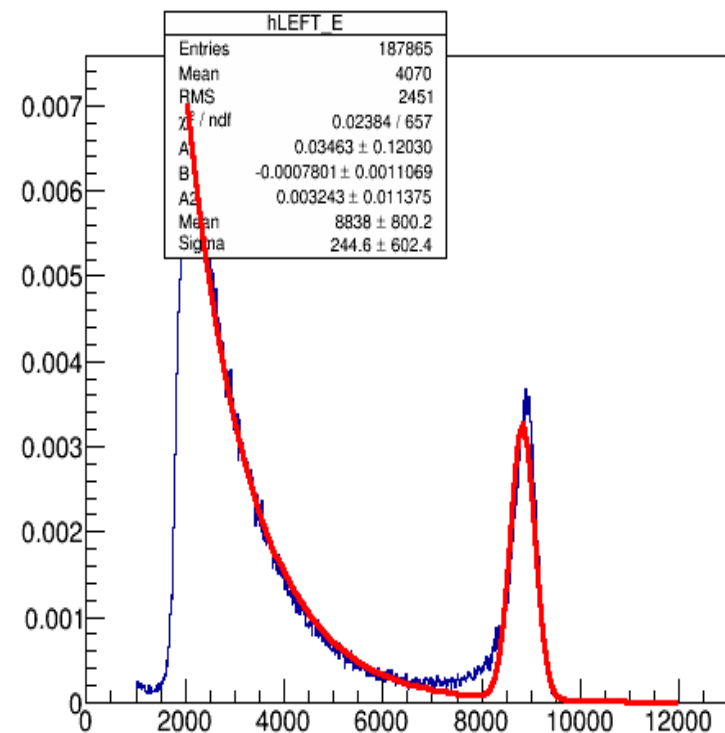
N_DOWN_m = 12588

Horizontal Mott Asymmetry

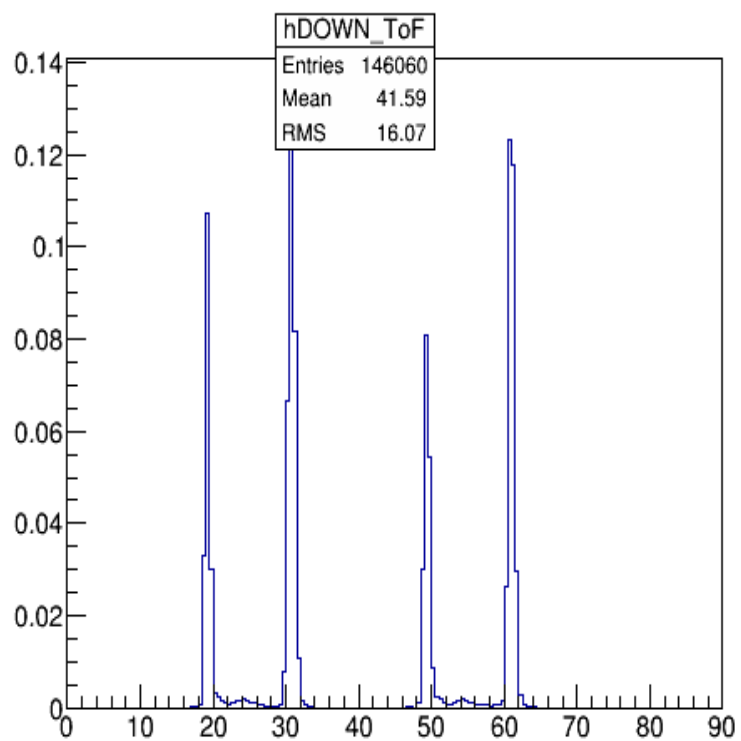
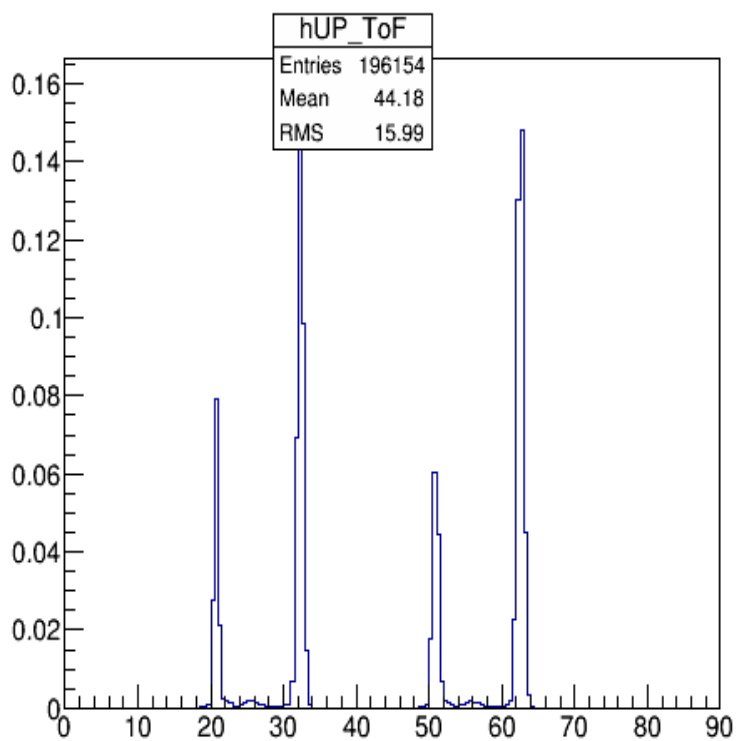
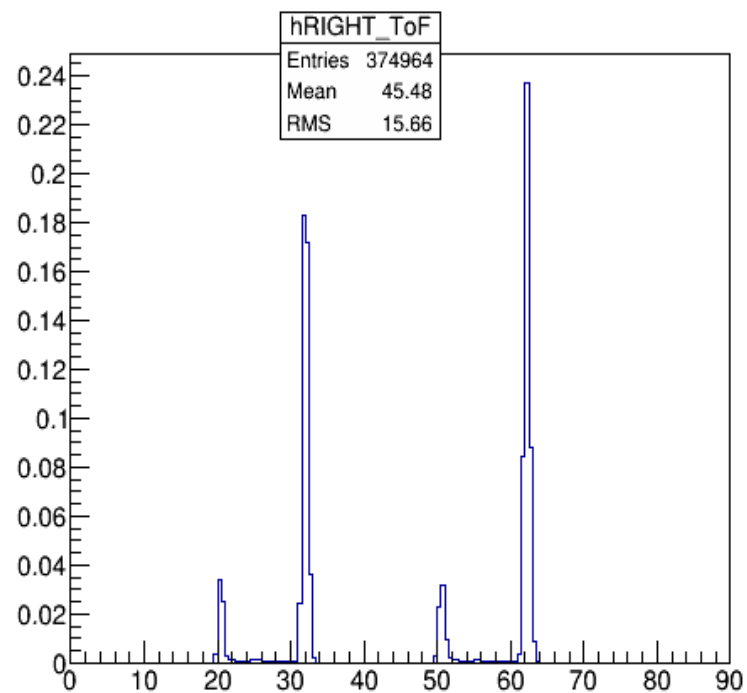
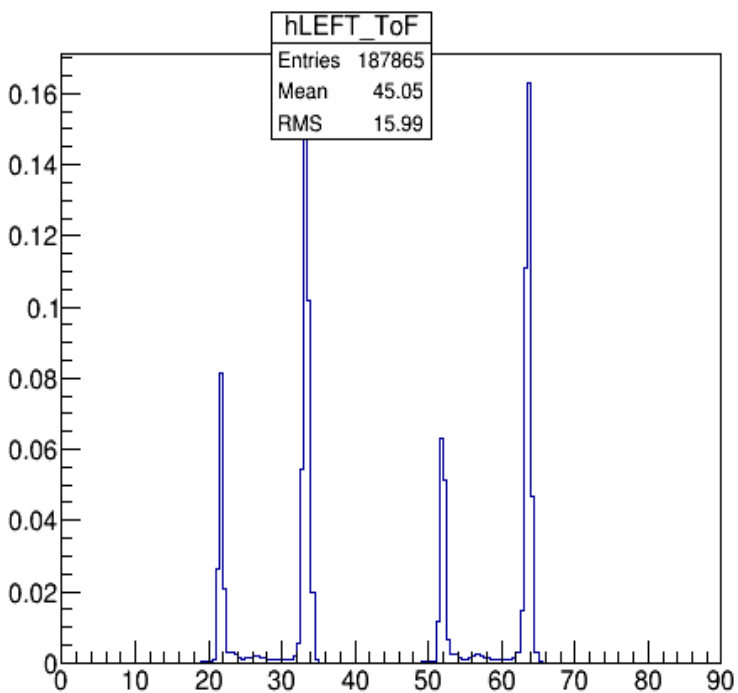
Ax_Phy (%) = 0.140595 +/- 0.454729

Vertical Mott Asymmetry

Ay_phy (%) = -43.949 +/- 0.425553



Mott Time of Flight Curves (TDC17 - TDC18)



Mott Detector Energy Spectra (Normalized)

Au 0.05 (2) um Foil – Run 7435

RunTime = 1253s

Beam Current = 2.60314 uA

Beam Momentum = 5.699 MeV

1/2 Wave Plate = OUT

N_LEFT_p = 6342

N_LEFT_m = 16783

N_RIGHT_p = 16250

N_RIGHT_m = 6359

N_UP_p = 12333

N_UP_m = 12028

N_DOWN_p = 13216

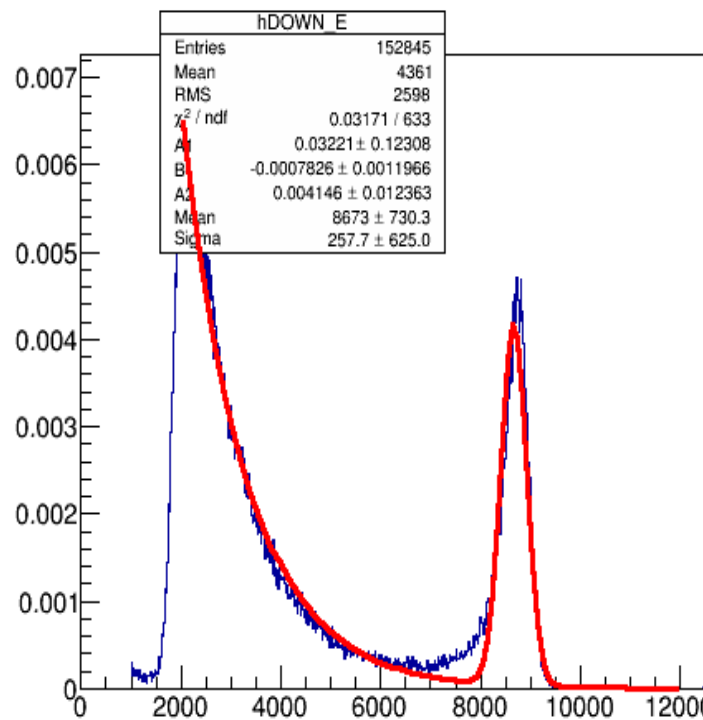
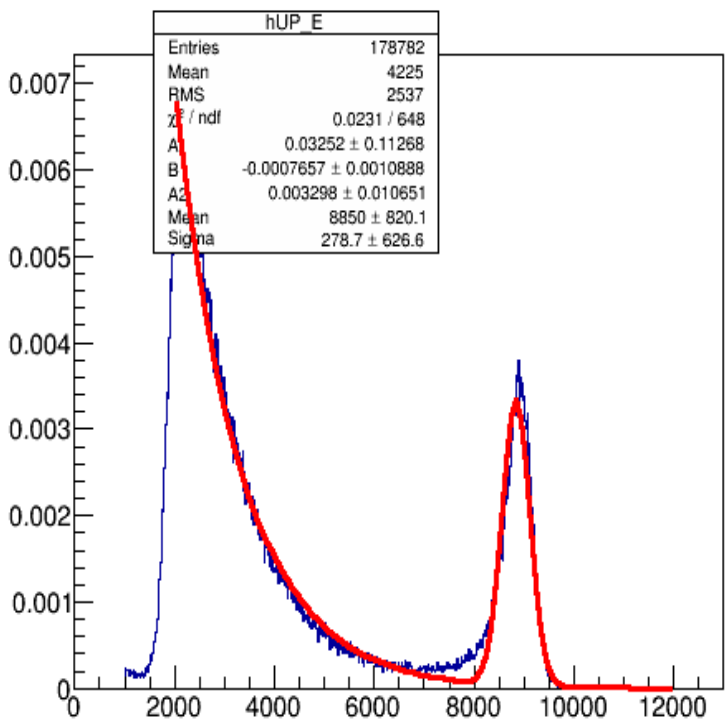
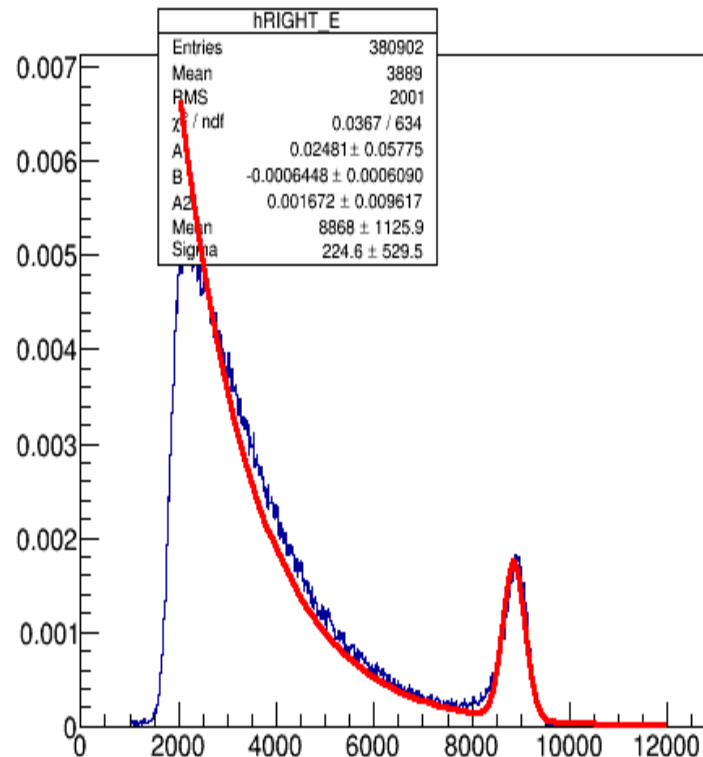
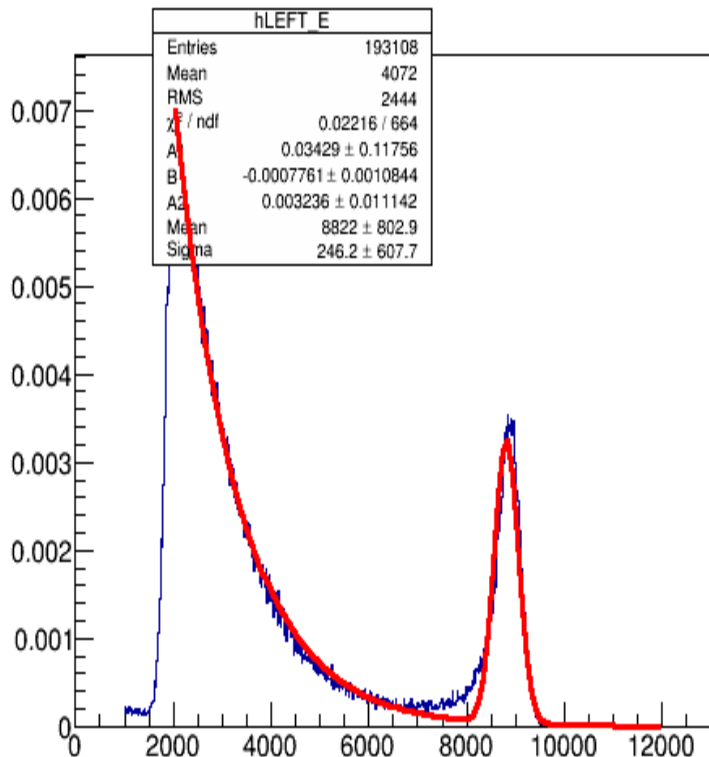
N_DOWN_m = 12768

Horizontal Mott Asymmetry

Ax_Phy (%) = 0.236121 +/- 0.445958

Vertical Mott Asymmetry

Ay_phy (%) = 44.4519 +/- 0.418895



**Mott Time of Flight
Curves
(TDC17 - TDC18)**

