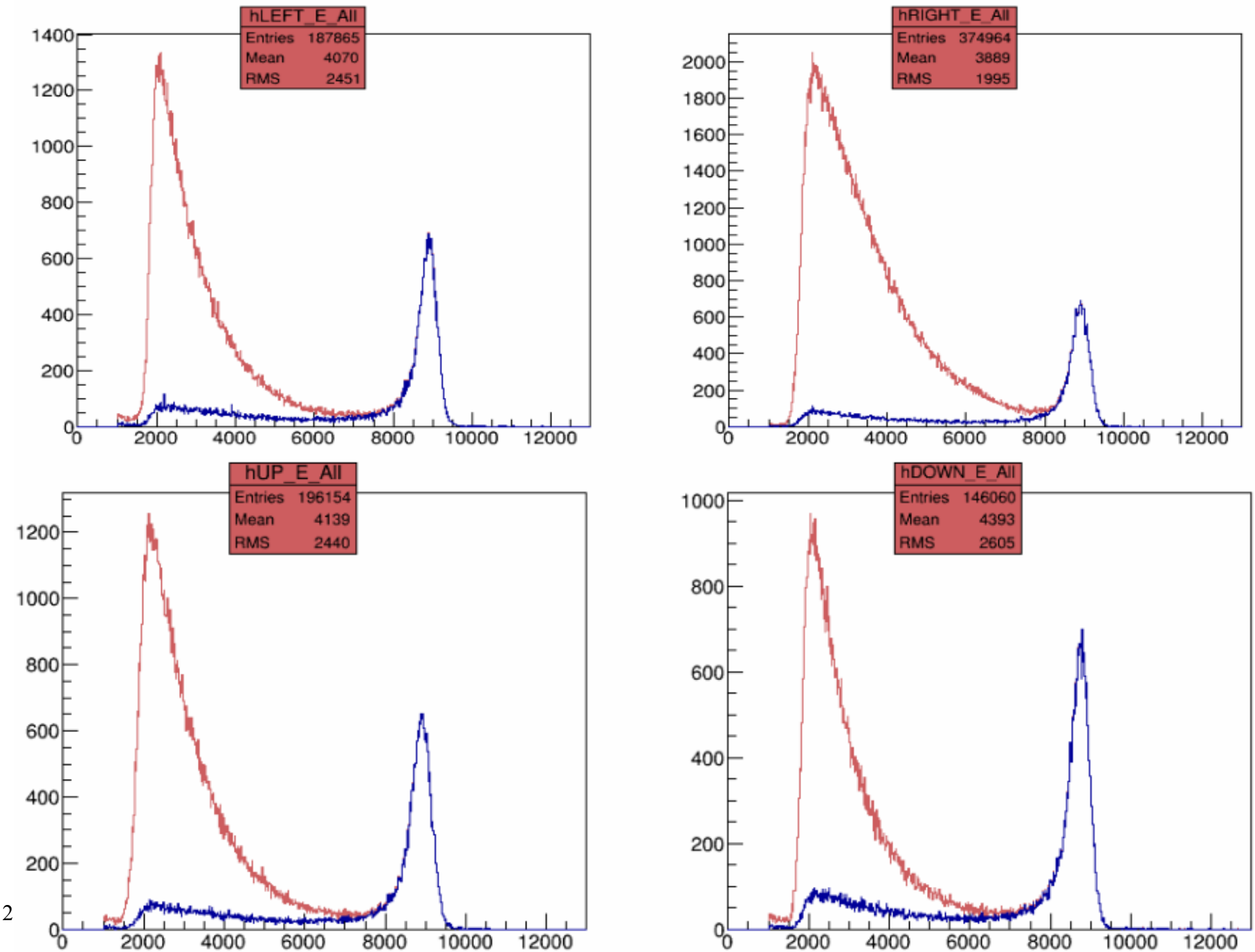
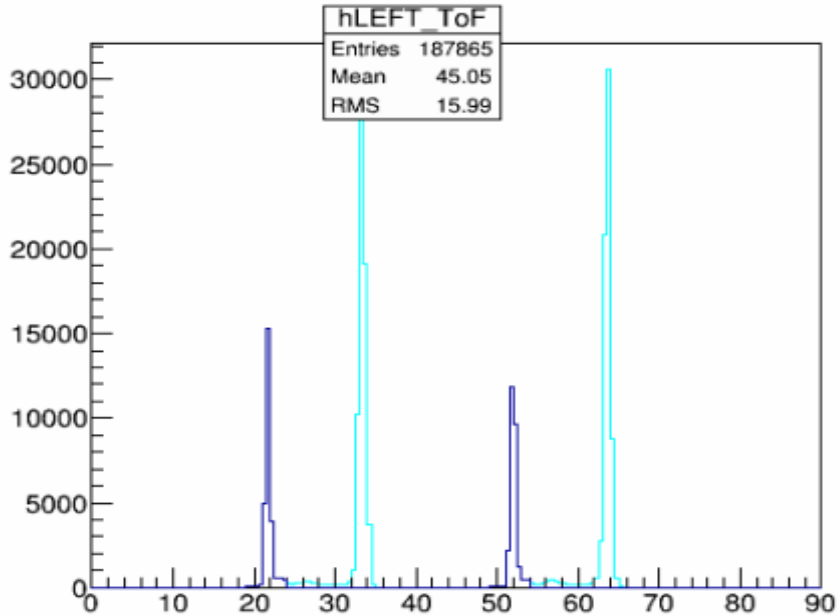
Mott Analyzer – TDC Cuts

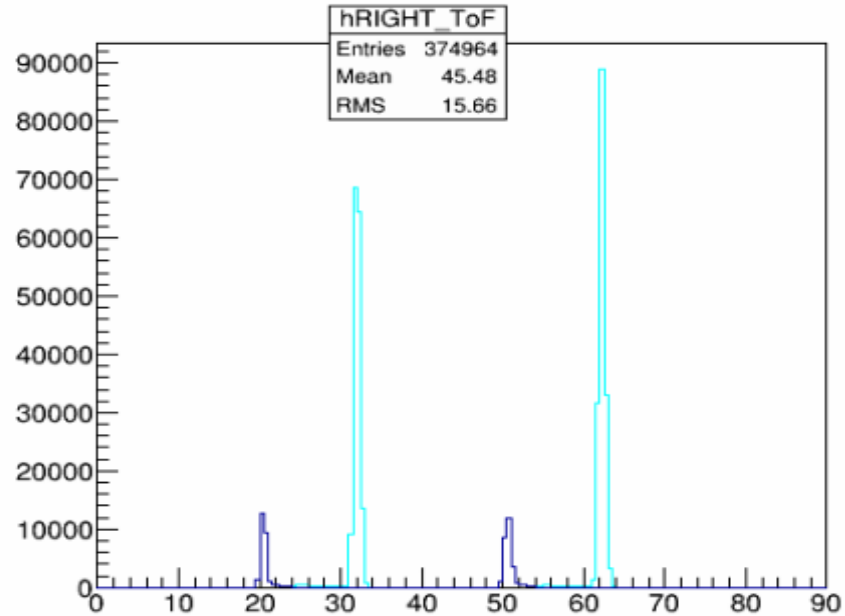
- Previously applied TDC Cuts after Energy spectra had been fit – fit parameters used to determine energy cuts ($\mu \pm \sigma$ of Gaussian)
- Apply TDC cuts before Energy spectra fit
- TDC Cuts are known good times (hardcoded)

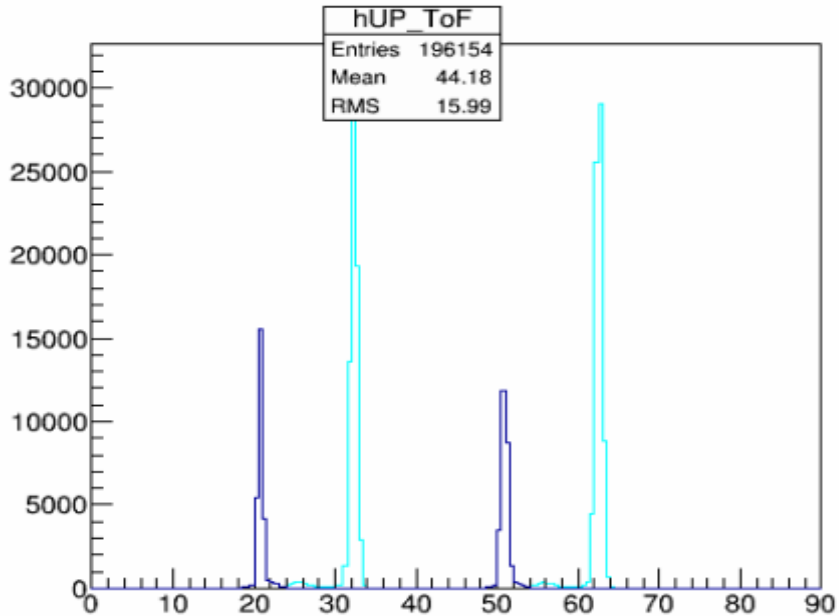
Gold 0.05 um, Run 7428

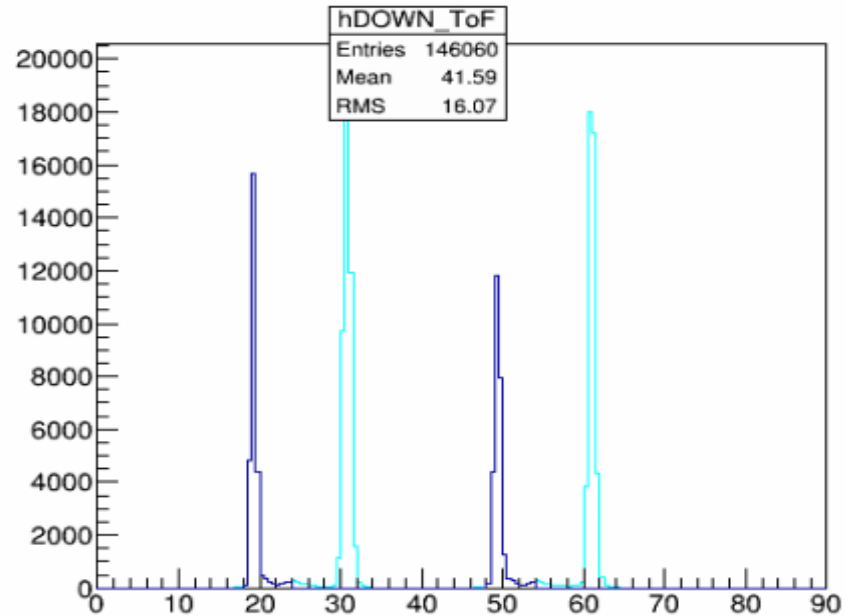


Gold 0.05 um, Run 7428

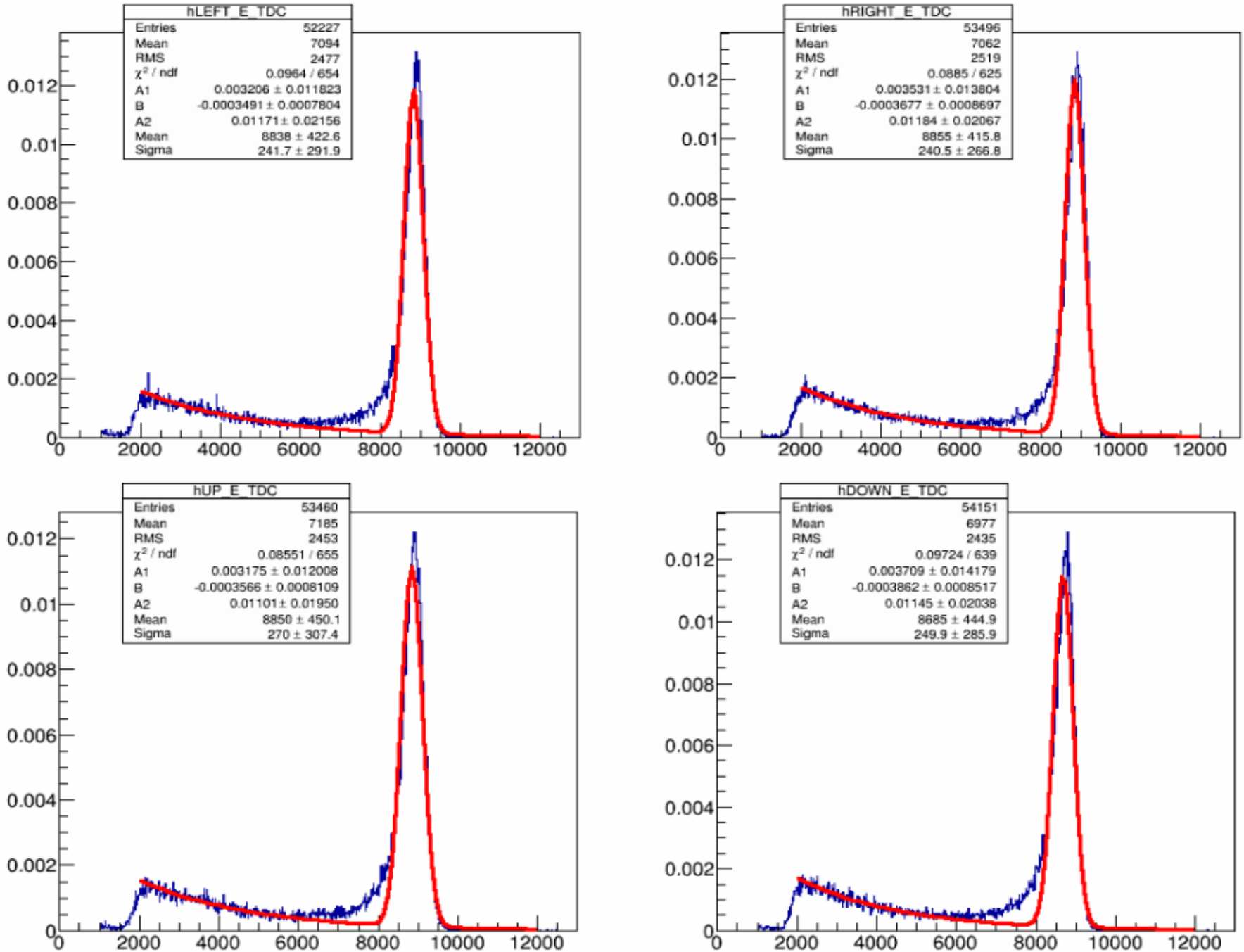




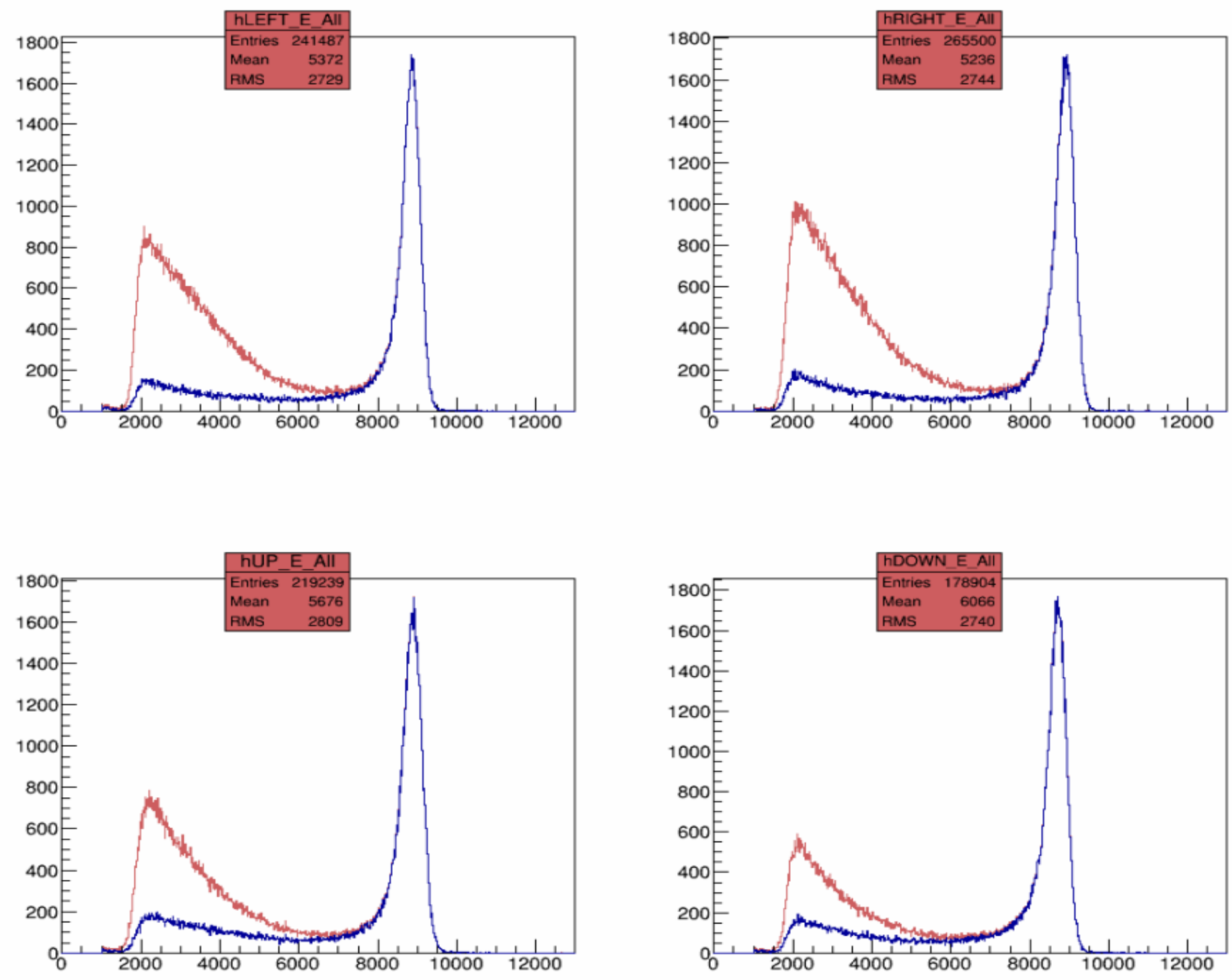




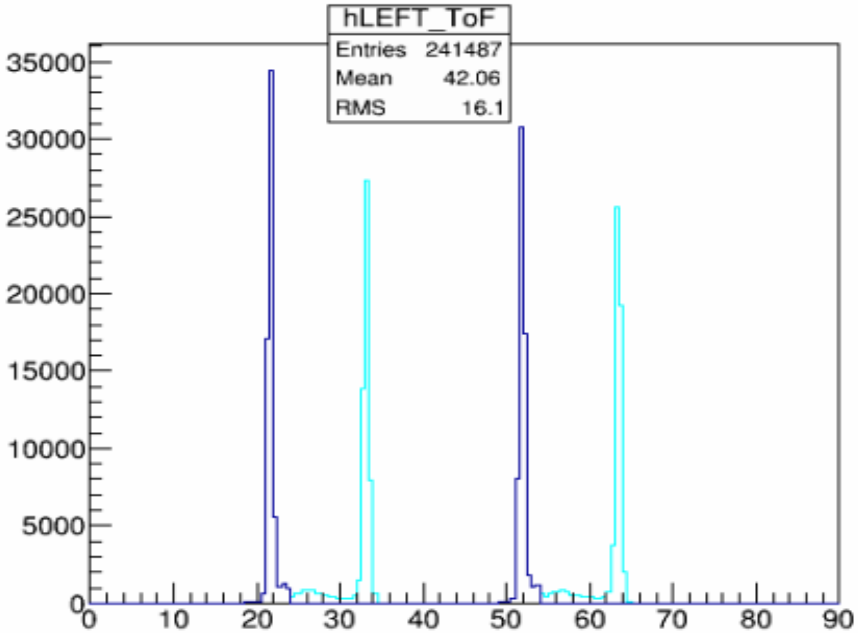
Gold 0.05 um, Run 7428

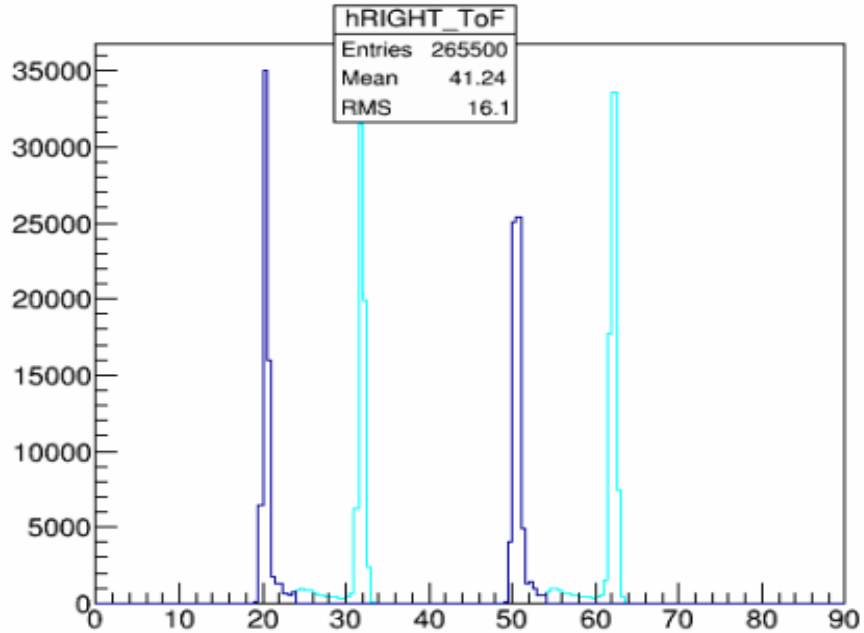


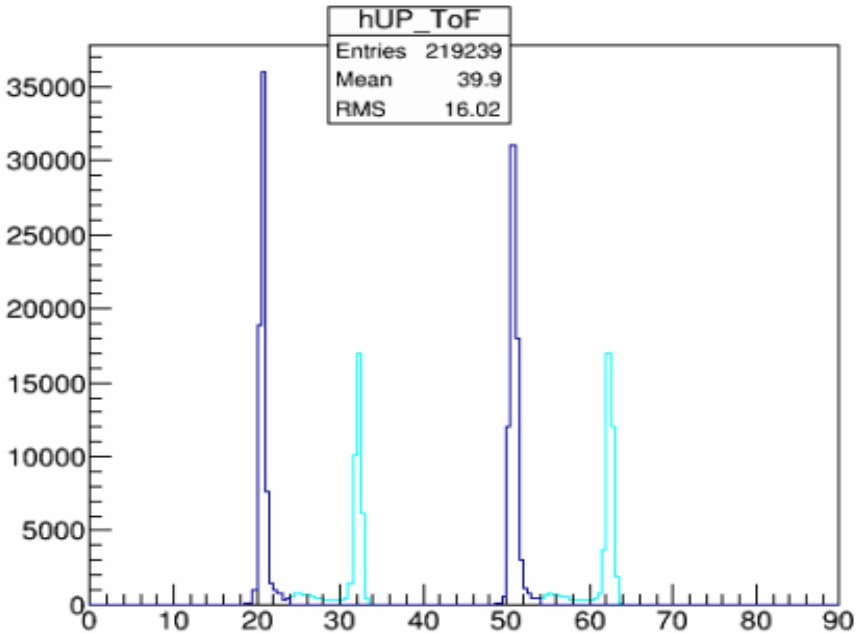
Gold 0.5 um, Run 7416

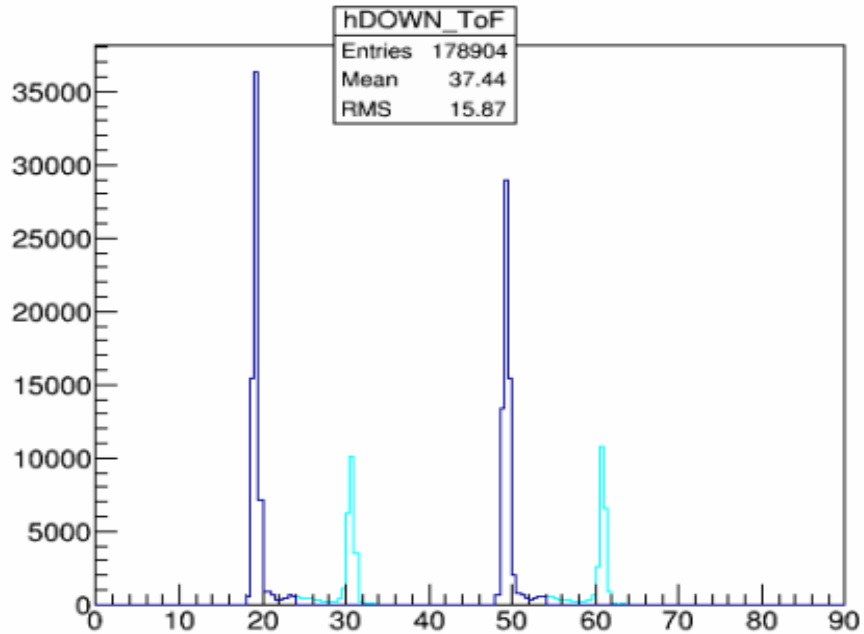


Gold 0.5 um, Run 7416

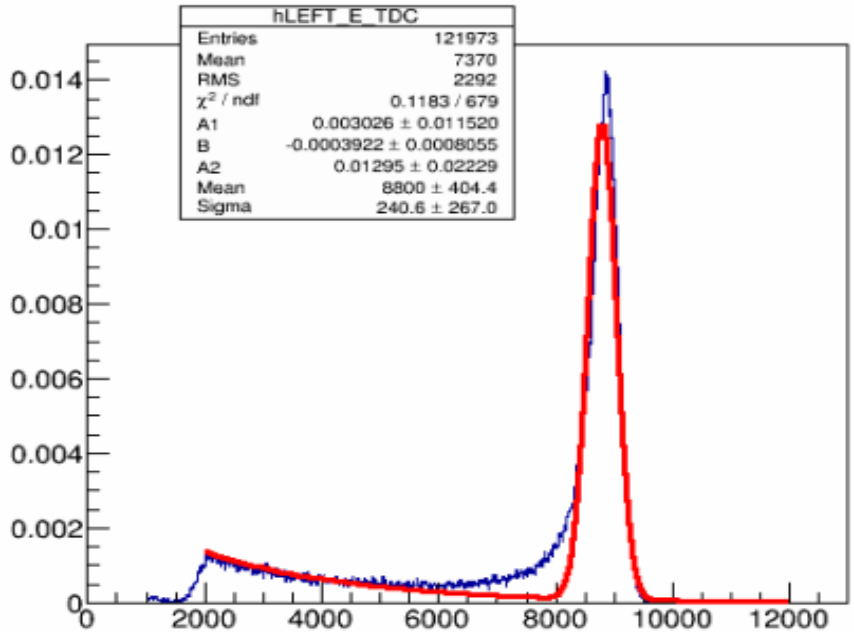


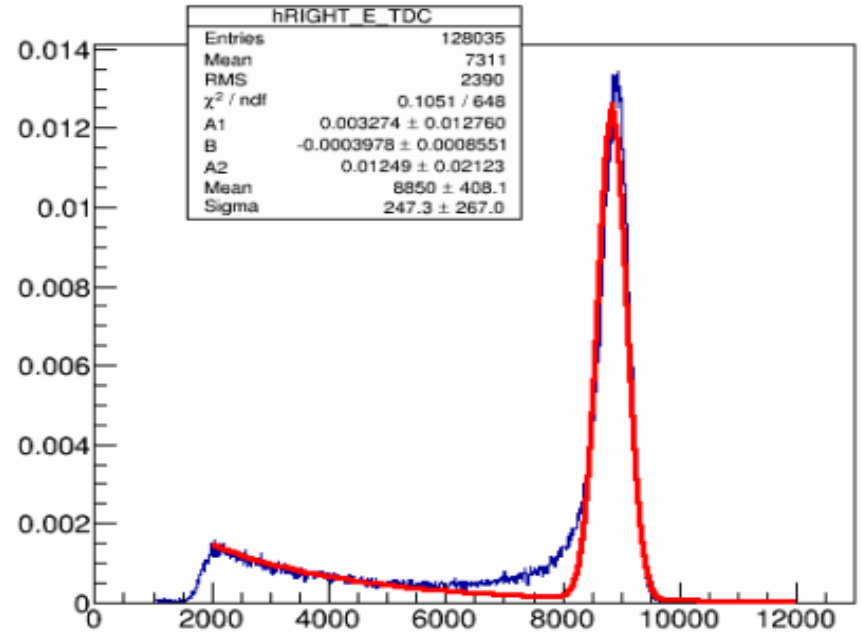


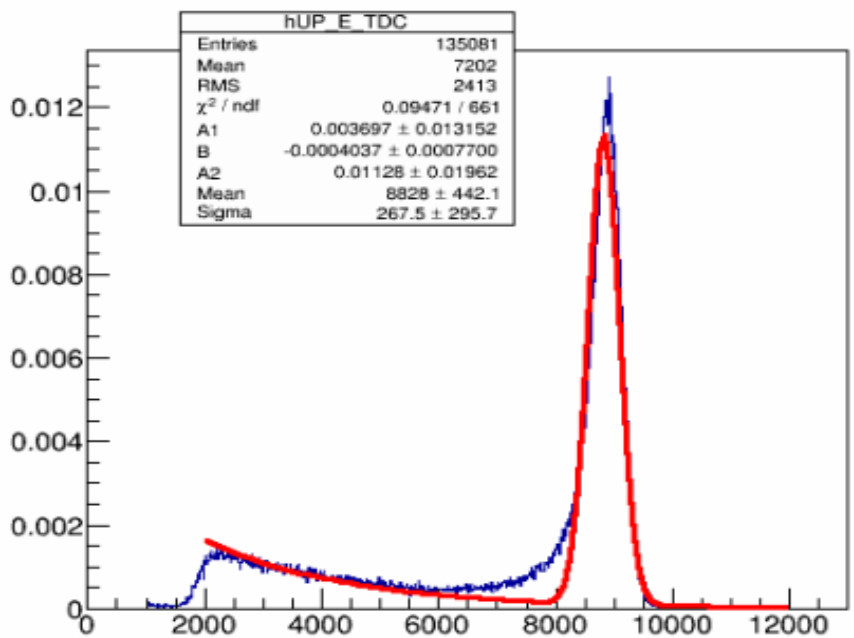


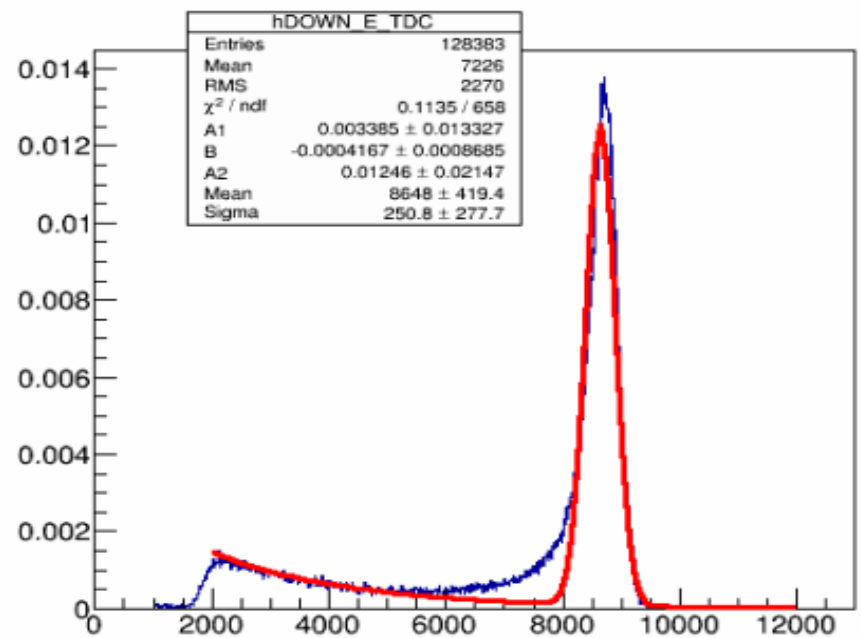


Gold 0.5 um, Run 7416

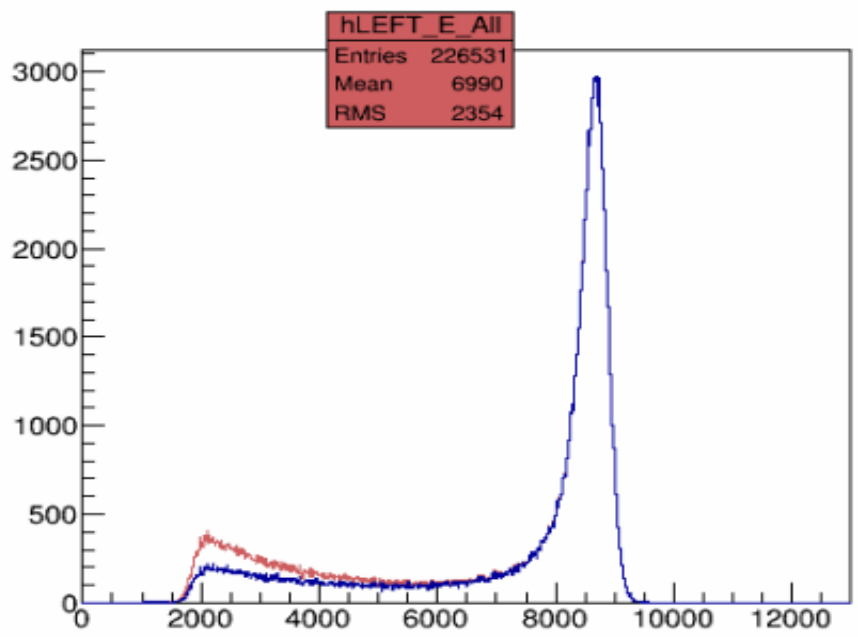


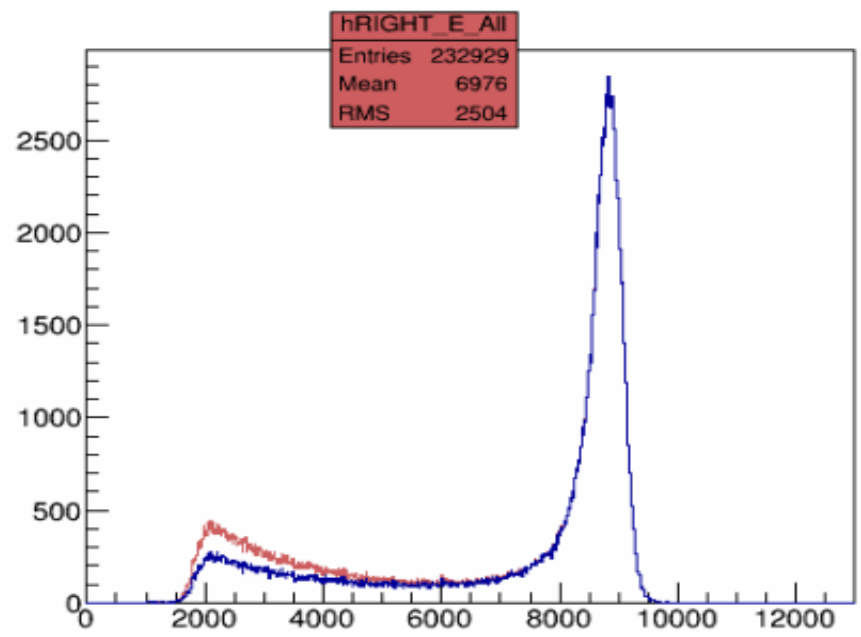


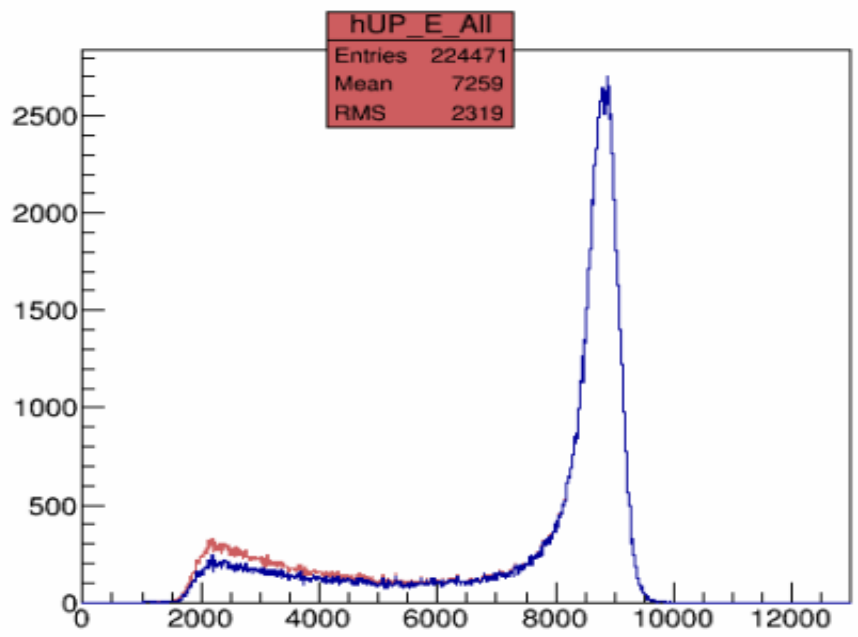


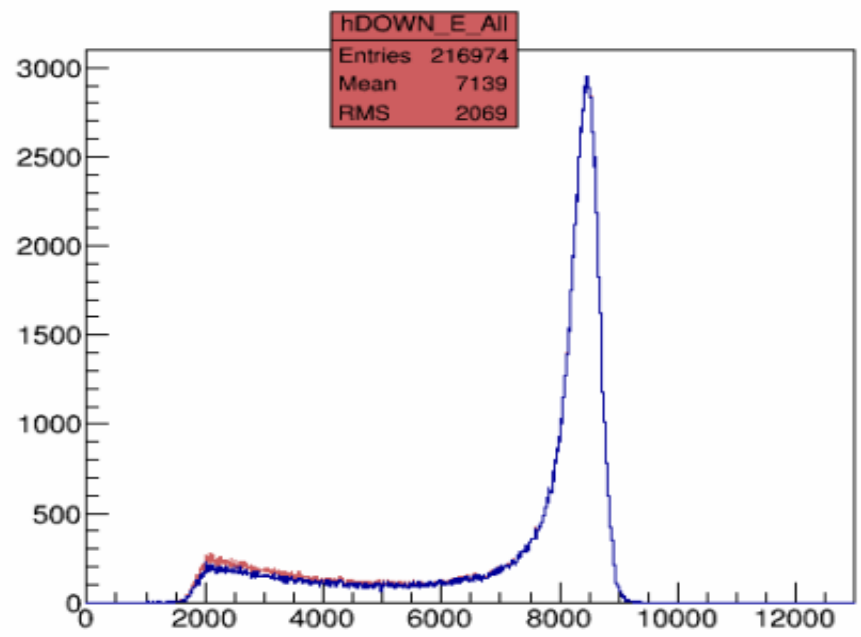


Gold 5.0 um, Run 7394

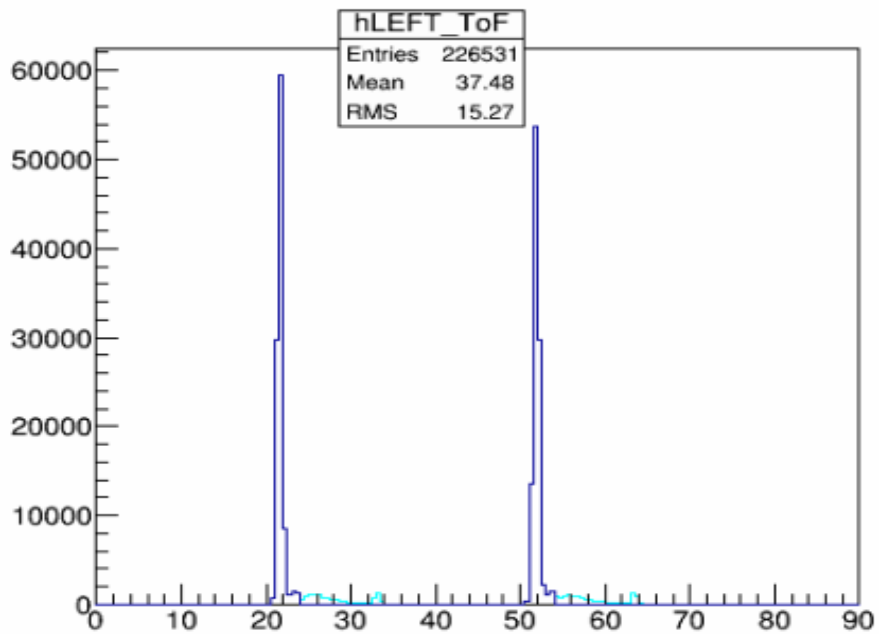


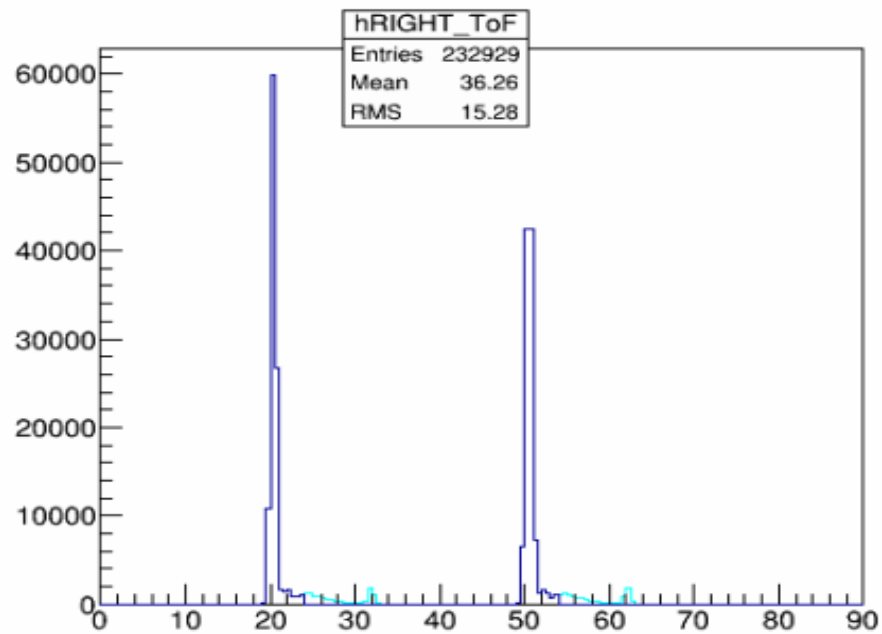


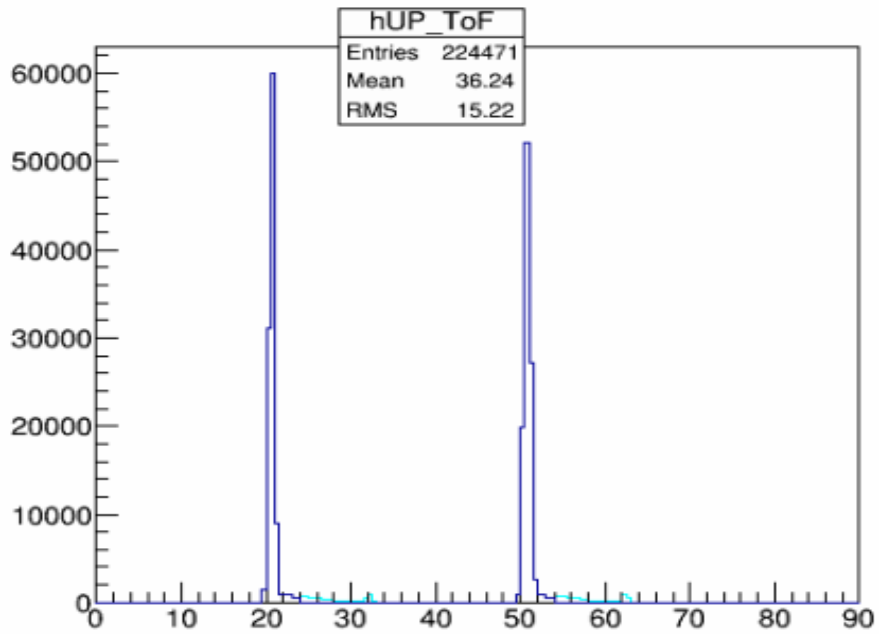


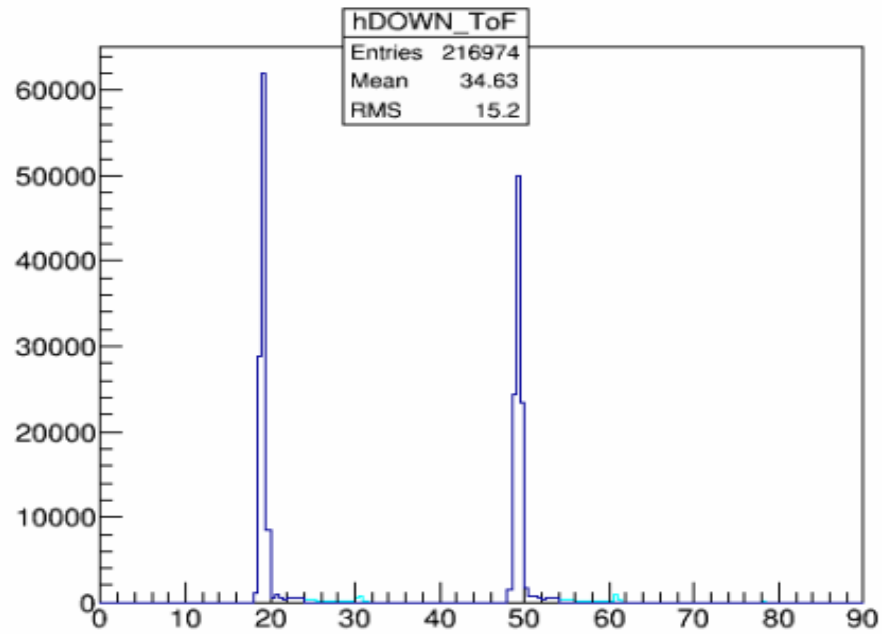


Gold 5.0 um, Run 7394

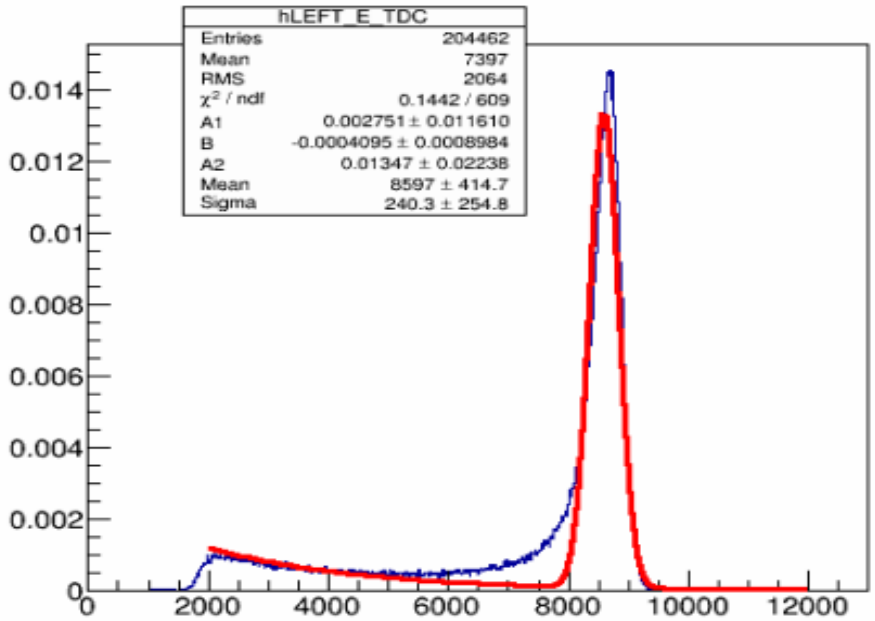


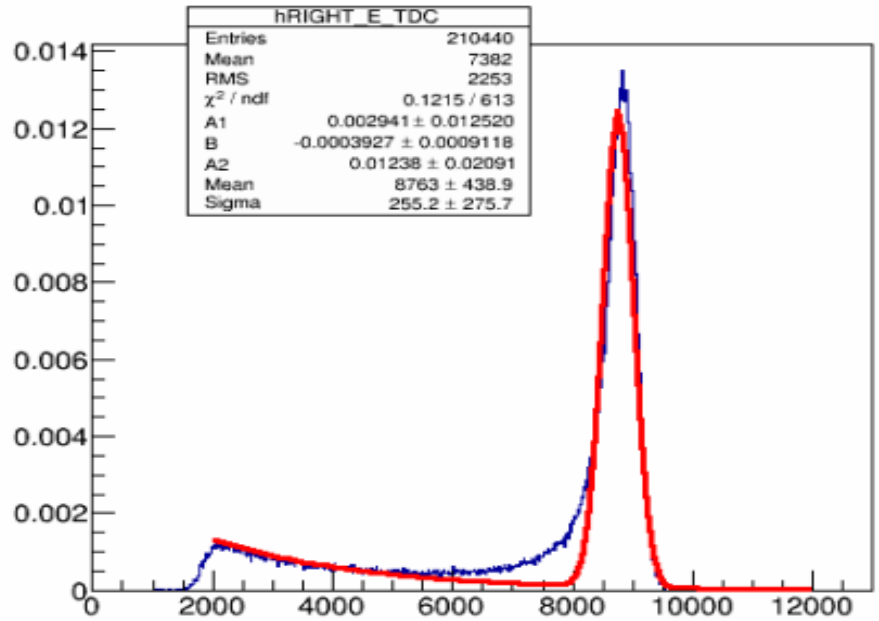


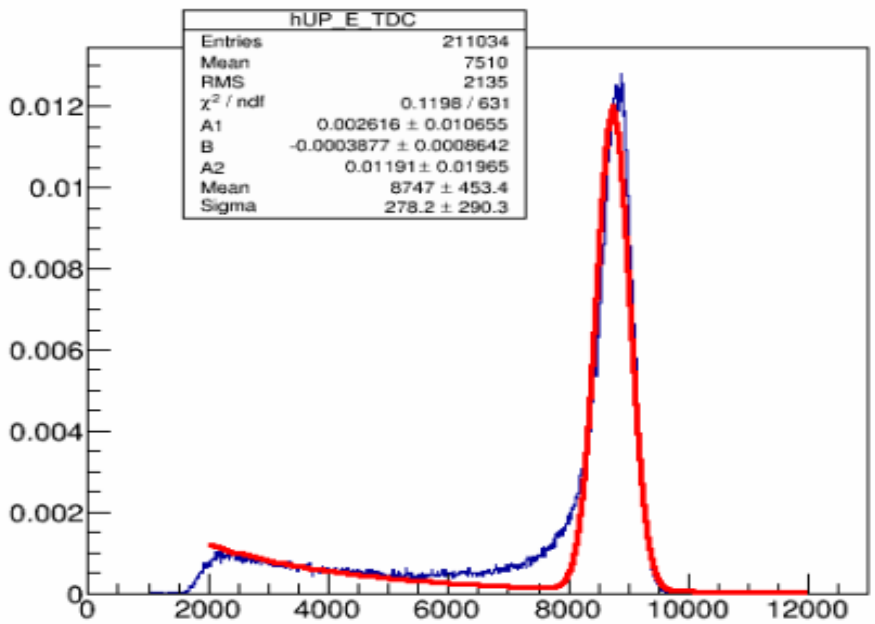


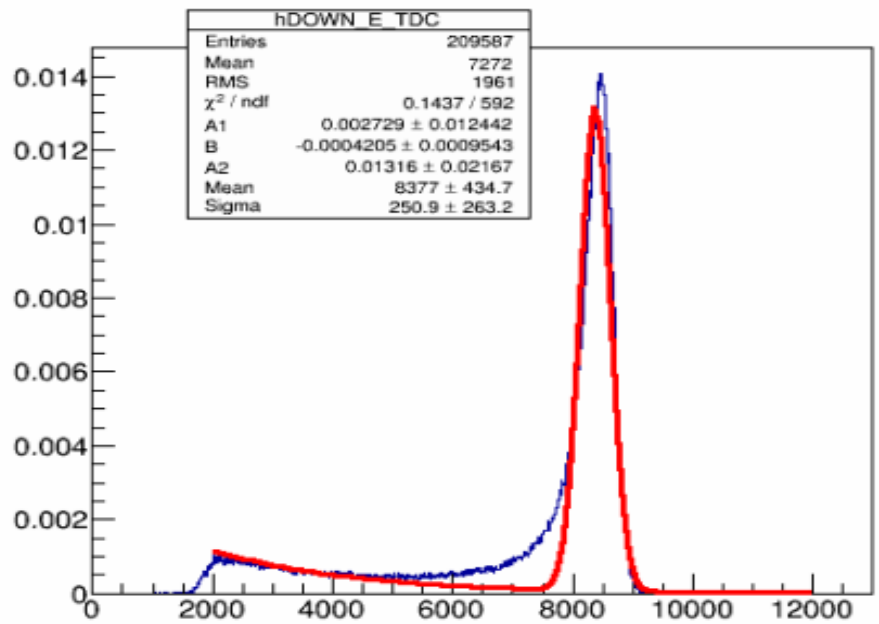


Gold 5.0 um, Run 7394



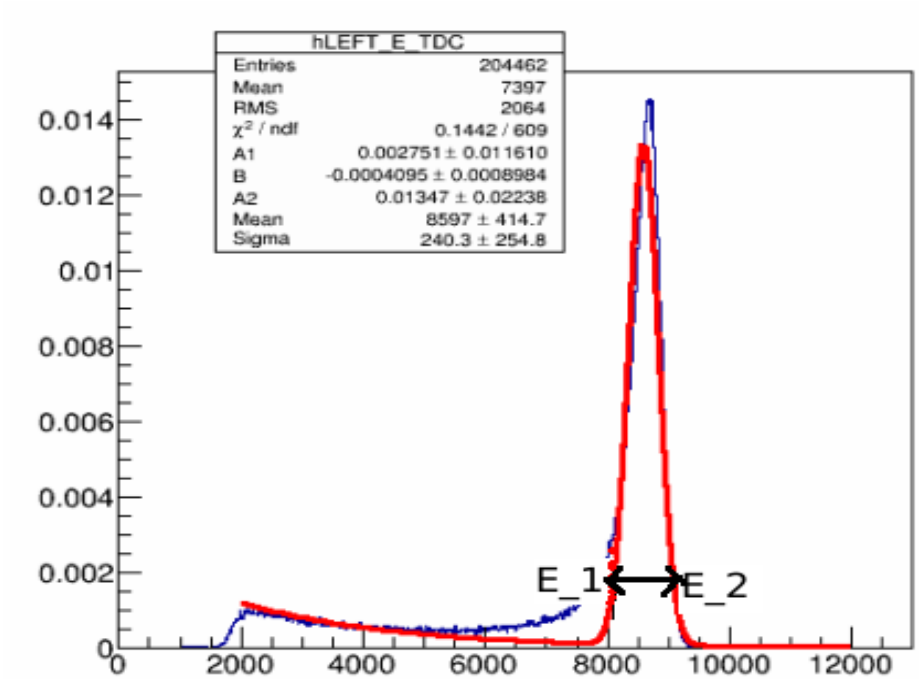






Comparison of Analyzers – Gold, Left Detector

Foil (um)	Run	E_1 TDC	E_1 Old	E_2 TDC	E_2 Old	A_y TDC	A_y Old
5	7394	8357	8357	8837	8837	19.679 ± 0.220	19.688 ± 0.220
1	7404	8503	8509	8981	8979	34.903 ± 0.243	34.885 ± 0.244
0.75	7410	8524	8531	9010	9007	36.234 ± 0.249	36.257 ± 0.250
0.5	7416	8559	8568	9041	9038	39.862 ± 0.269	39.859 ± 0.270
0.35	7424	8572	8579	9054	9051	40.448 ± 0.274	40.430 ± 0.275
0.05 (1)	7428	8596	8593	9080	9083	43.831 ± 0.422	43.949 ± 0.426
0.05 (2)	7435	8578	8574	9066	9070	44.488 ± 0.414	44.452 ± 0.419



Next Steps

- Running asymmetry plots – ~200 bins = 100 keV steps
  - Use to determine where to make better Energy cuts
- Start looking at Energy spectra fit residuals
- Compare fitted data with simulated data