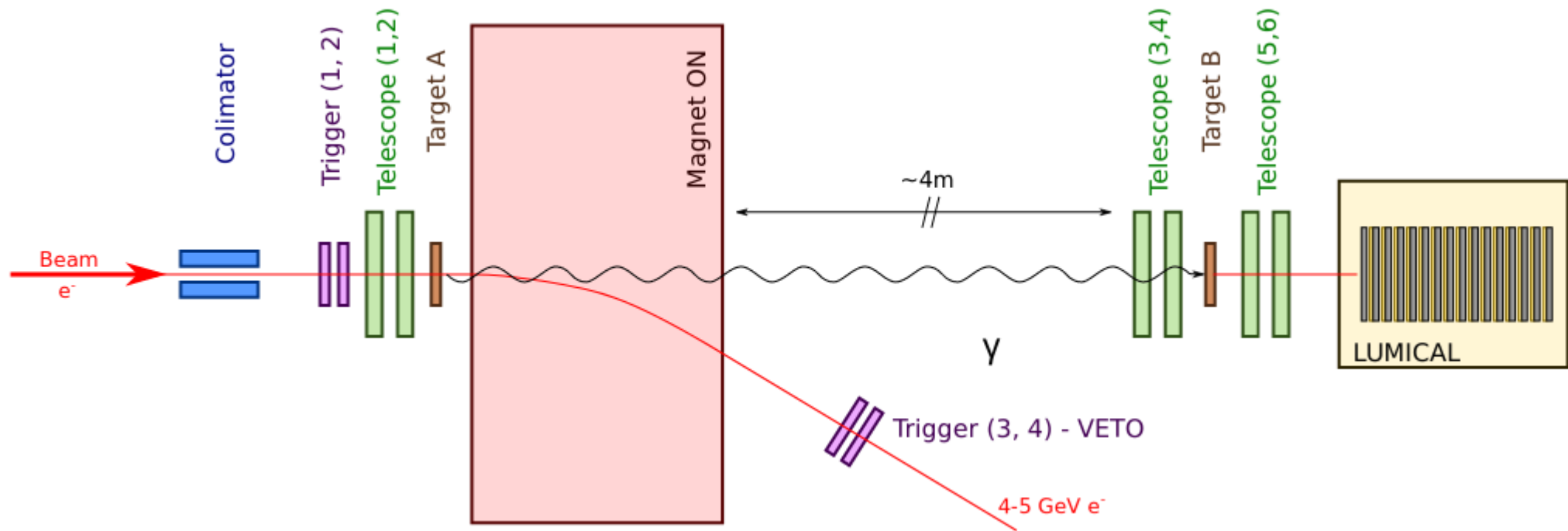


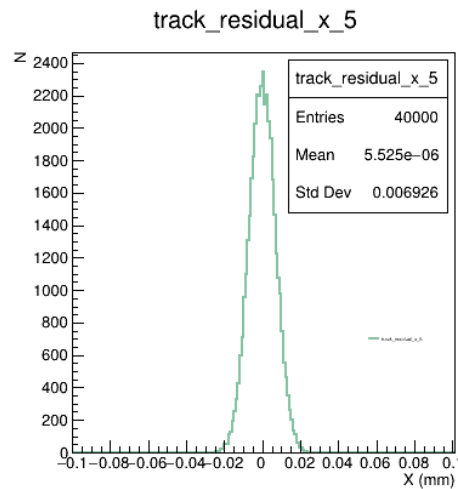
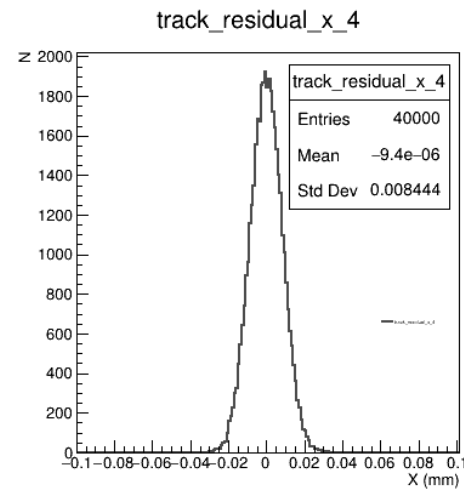
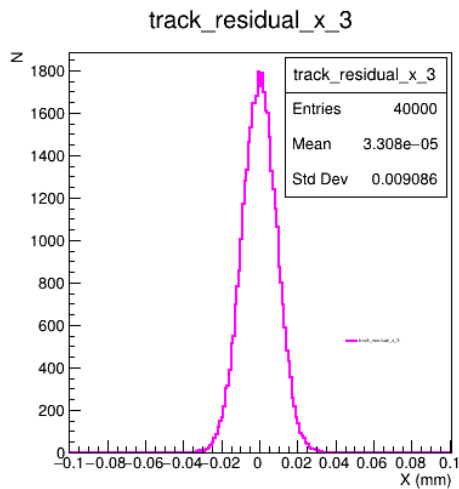
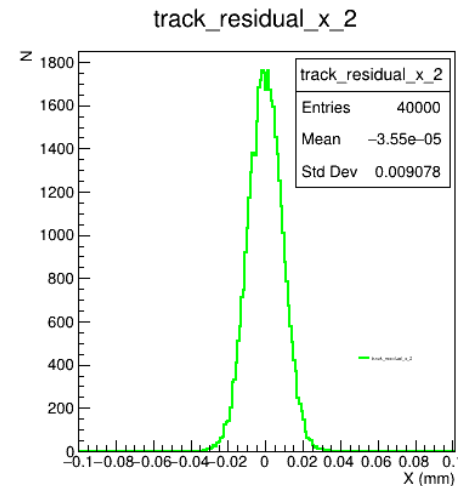
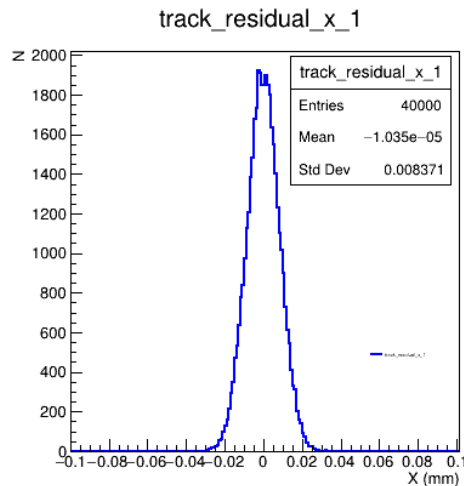
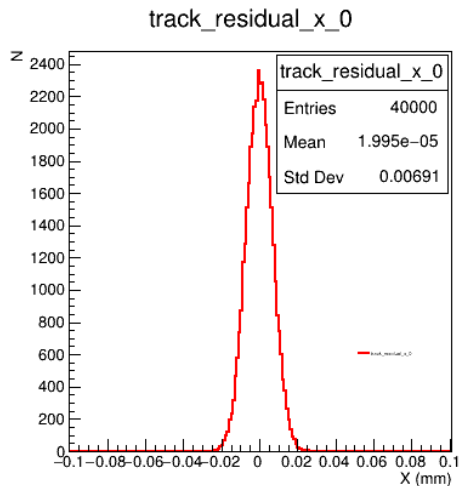
TB2020 Alpide Telescope Alignment



Simulated tracks residuals

20k simulated events with 2 tracks per event;
Sigma per plane 0.01 (mm);

Plane	dX	dY	dPhi
4	0.1	0.2	0.005
5	-0.2	-0.3	-0.008
4	-0.099934297	-0.19992217	-0.0050048508
5	0.20000275	0.30007837	0.0079775856



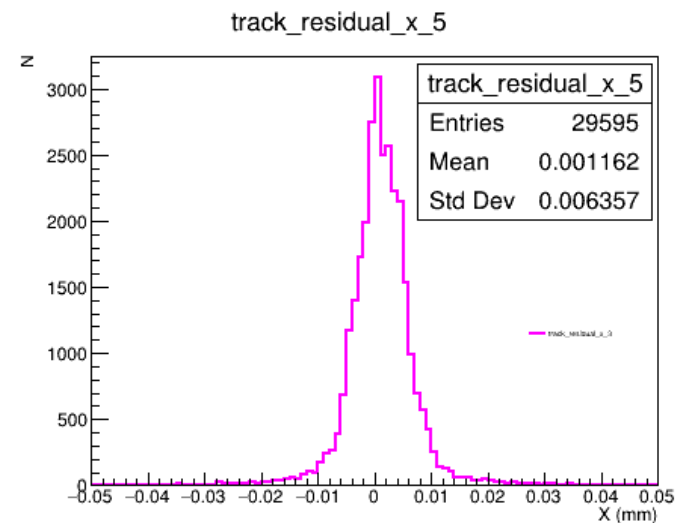
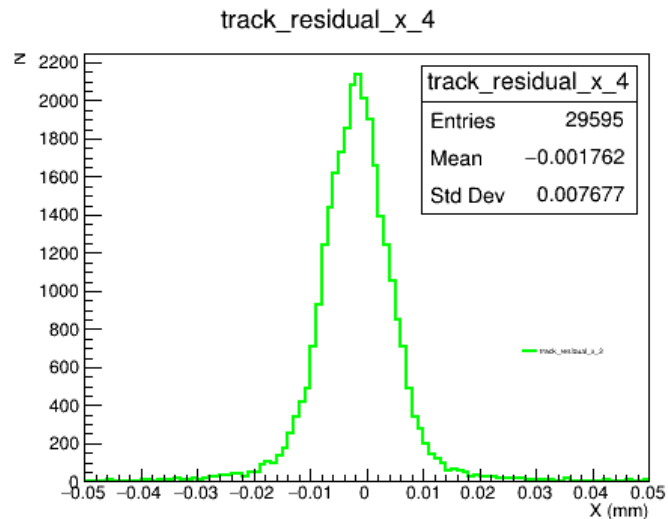
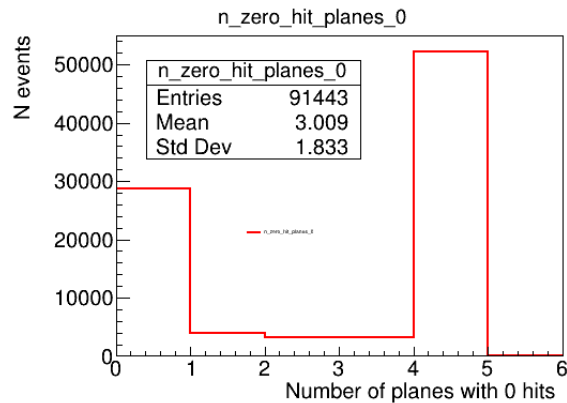
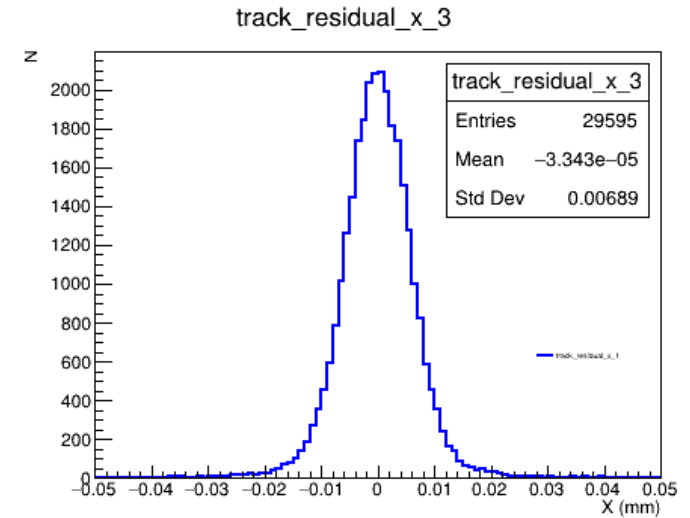
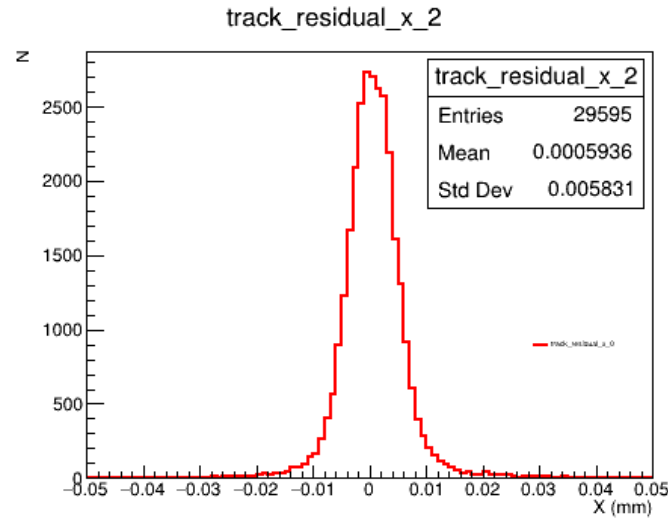
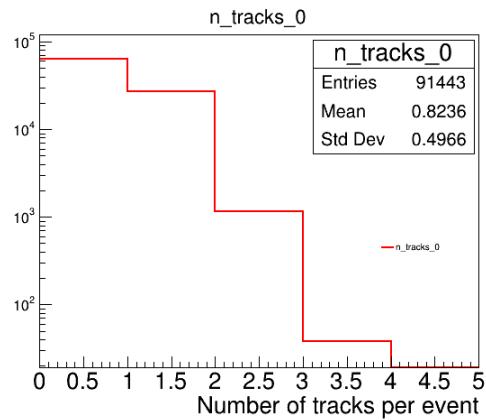
Mean of distributions:

```
x_0: 1.9496921e-05
x_1: -1.2101851e-05
x_2: -3.4914826e-05
x_3: 3.3618646e-05
x_4: -1.157453e-05
x_5: 5.4756394e-06

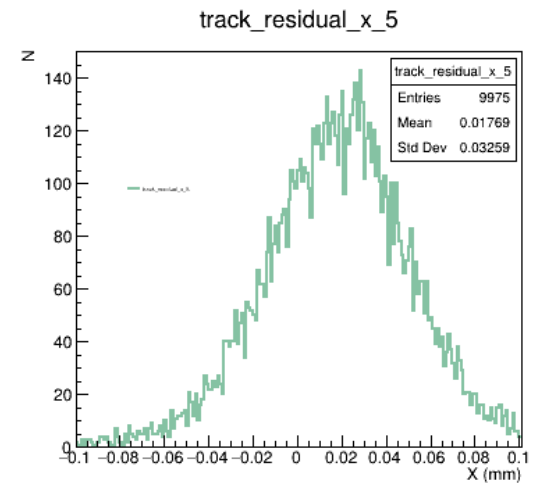
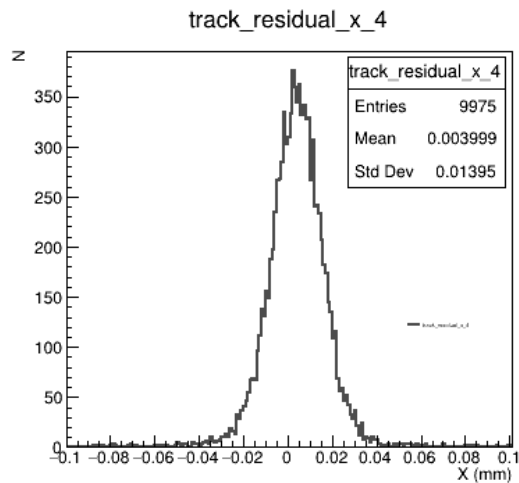
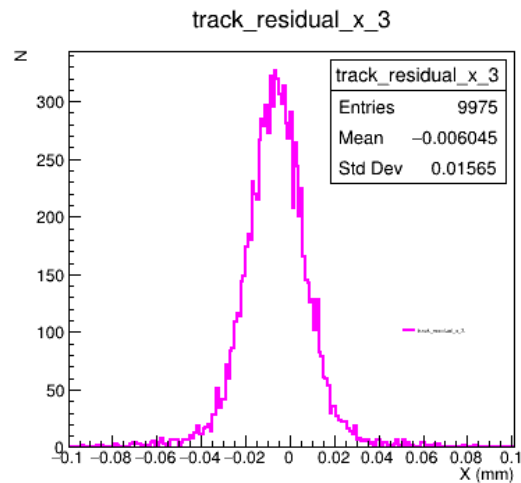
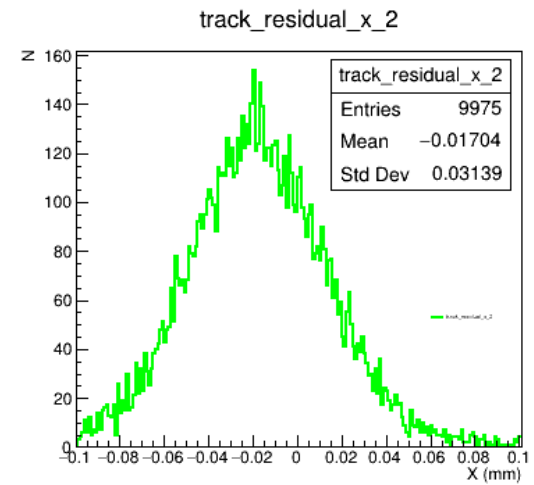
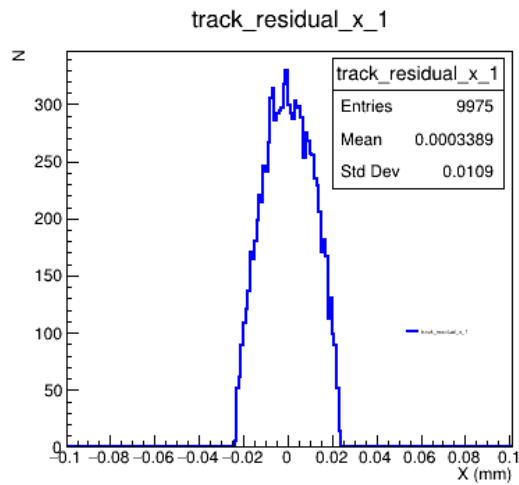
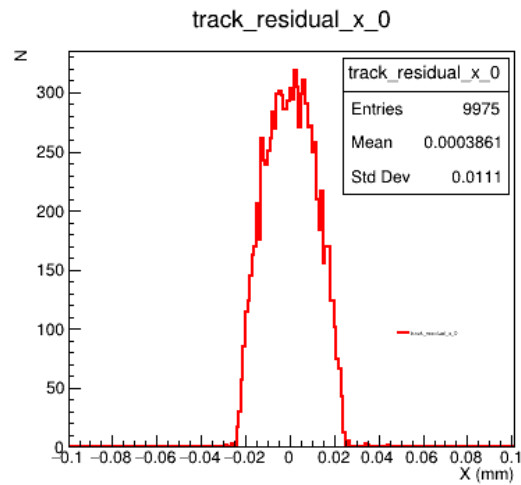
y_0: -3.8579666e-05
y_1: 6.0652846e-05
y_2: -1.6859301e-05
y_3: 4.2166872e-06
y_4: -7.5691405e-06
y_5: -1.8614257e-06
```

Residuals in planes 2-5

Run 1132;
5 GeV;
91k events.



Residuals in planes 0-5



Calorimeter APV 25 sampled signal

SRS Run 16

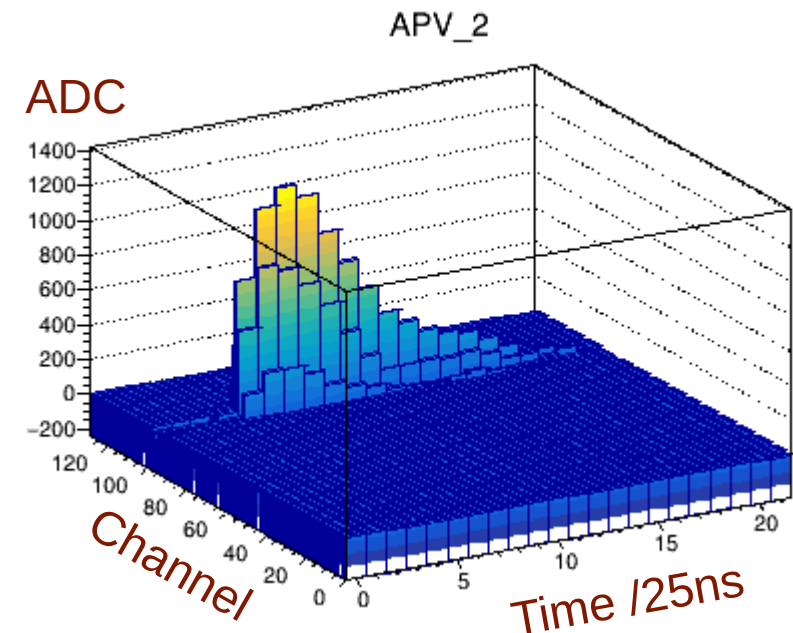
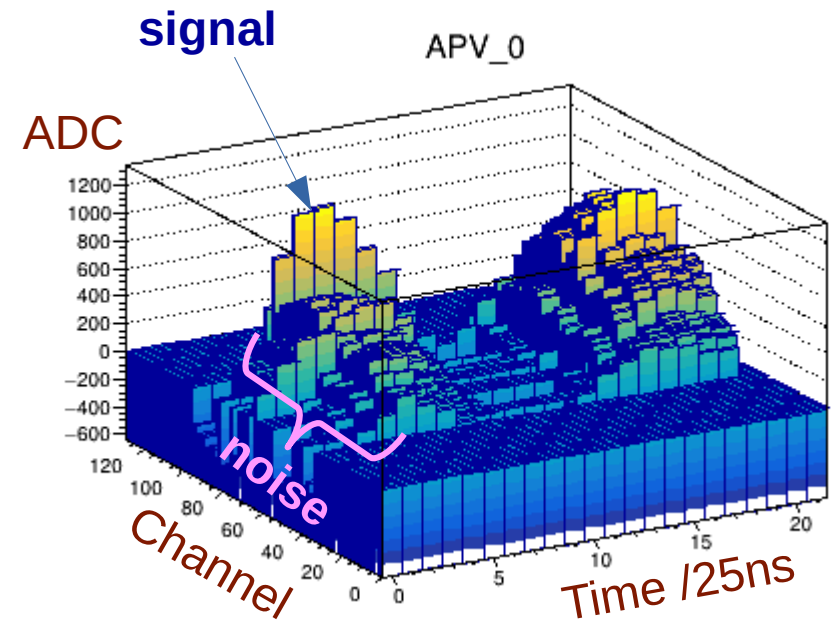
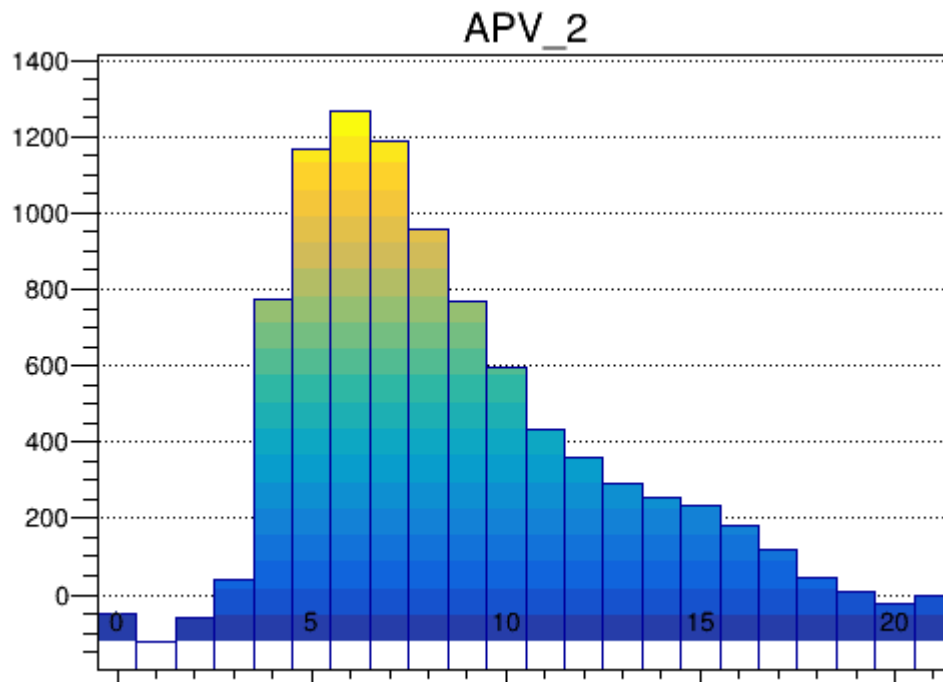
5 GeV,

Energy scan study, SRS + Telescope

Example plots:

APV 0,2 (Master)

Signal shape can be used to reject the noise



NN performance

tarining_sig_sim_land_180_noise_60_t0_4_15k.txt

For the threshold at 0.7

Correct predictions:

$n/n_{\text{data}}: 14816 / 15000 = 98.7733\%$

Correct signal:

$n/n_{\text{data}}: 7492 / 7558 = 99.1268\%$

Correct noise:

$n/n_{\text{data}}: 7324 / 7442 = 98.4144\%$

