S1 resolution and SER problems: part2

Campaign V

Oleynikov Vladislav

28 Nov 2018

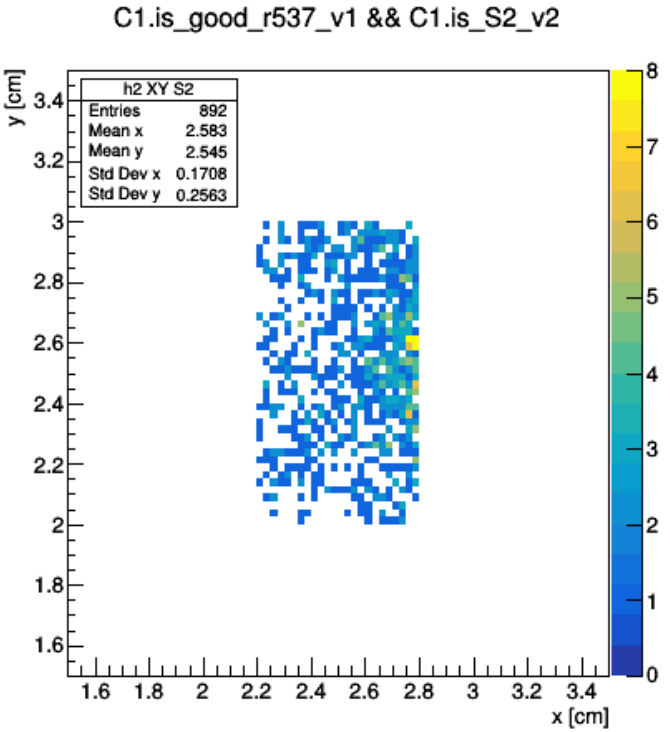
Algorithm:

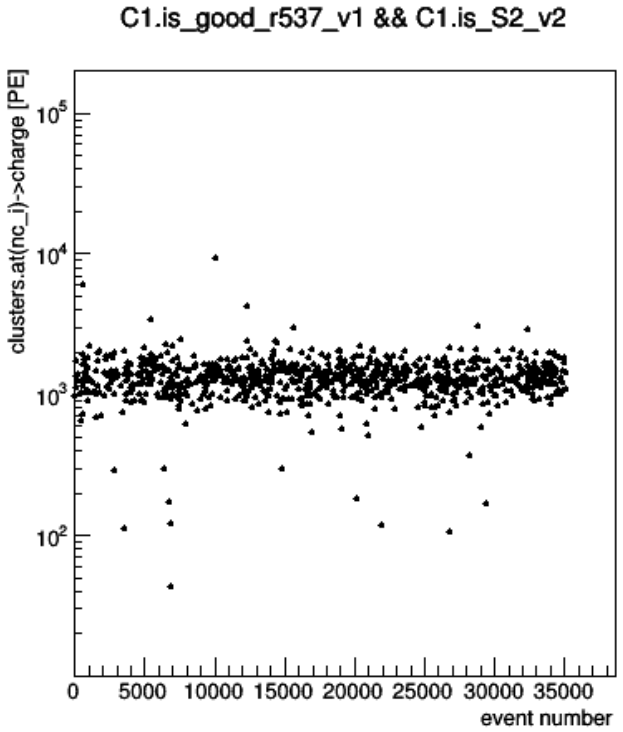
11713f949ea5bffcc2f0ceb22d1267b5f314a5af

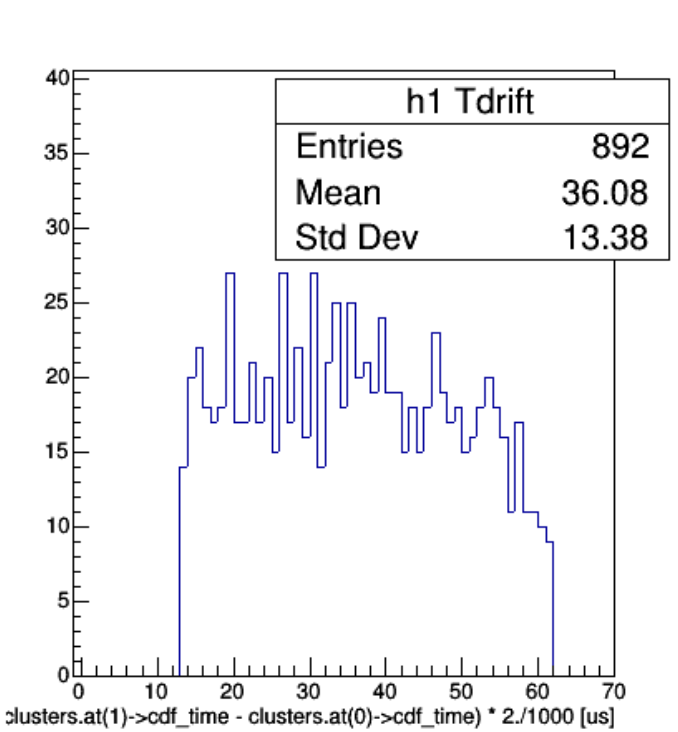
Merge branch 'barycenter' into 'master'

Cut list:

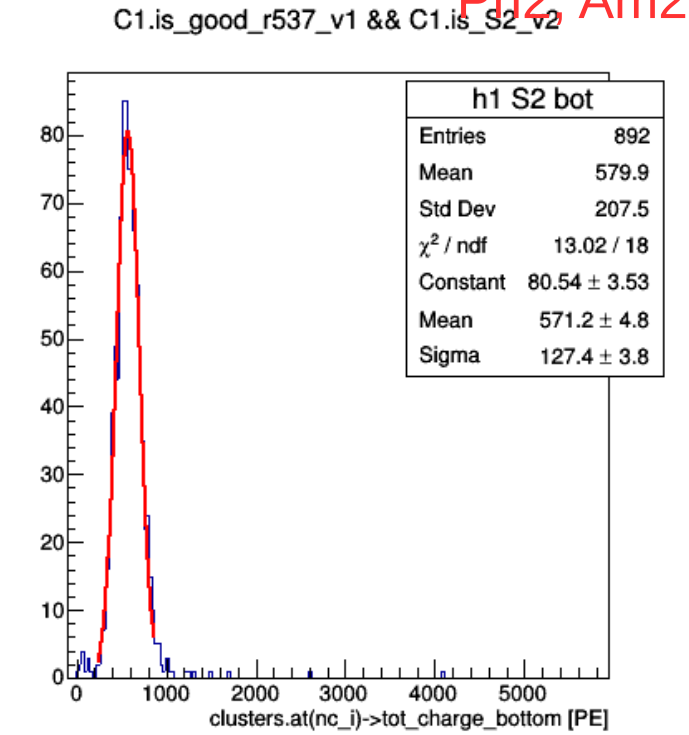
```
bool cls0_is_S1 = clusters.at(0)->f90 > 0.2;
bool cls0_is_full = clusters.at(0)->rep == 1;

bool cls0 = nc_i == 0;//cluster 0
bool cls1 = nc_i == 1;//cluster 1
bool is_S1 =  nc == 2 && cls0 && cls0_is_full && cls0_is_S1;
bool is_S2 =  nc == 2 && cls1 && cls0_is_full && cls0_is_S1;
bool is_S1_only = nc == 1 && cls0_is_full && cls0_is_S1;
bool is_S2_v2 = is_S2 && clusters.at(1)->f90 < 0.2;

bool region_of_S2_uniformity =
(clusters.at(1)->pos_x > 2.2) && (clusters.at(1)->pos_x < 2.8) &&
(clusters.at(1)->pos_y > 2) && (clusters.at(1)->pos_y < 3);

bool is_good_r537_v1 = is_S1_S2 && region_of_S2_uniformity &&
clusters.at(0)->charge > 300 && clusters.at(0)->charge < 700;
```

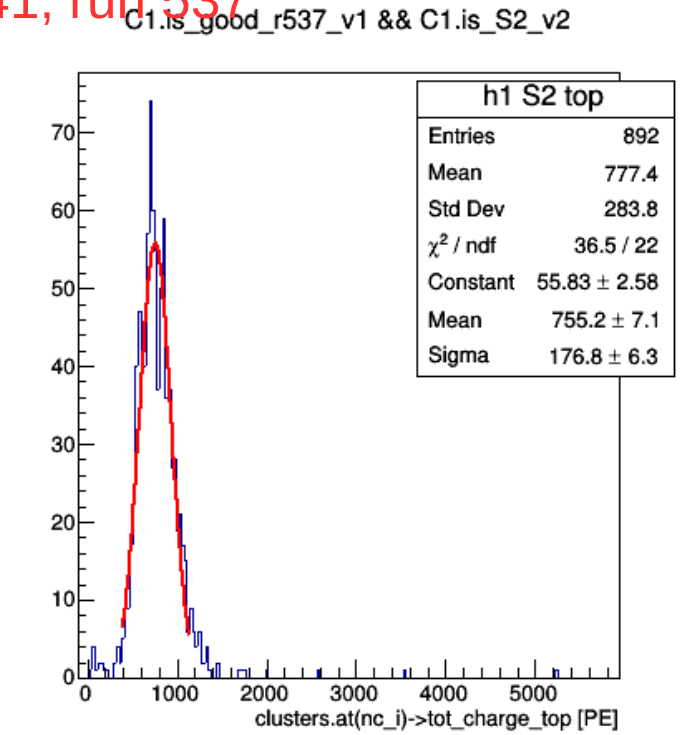


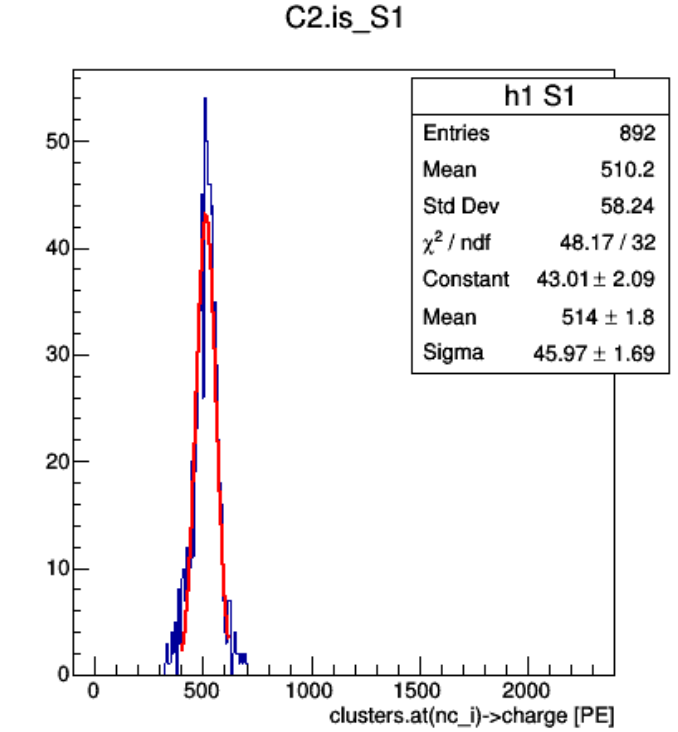




Ph2, Am241, run 537



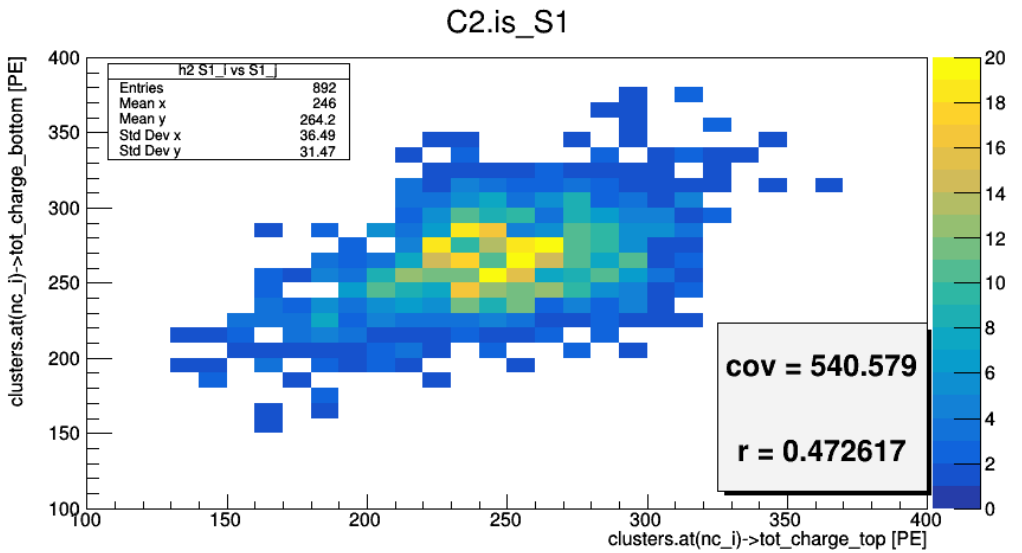


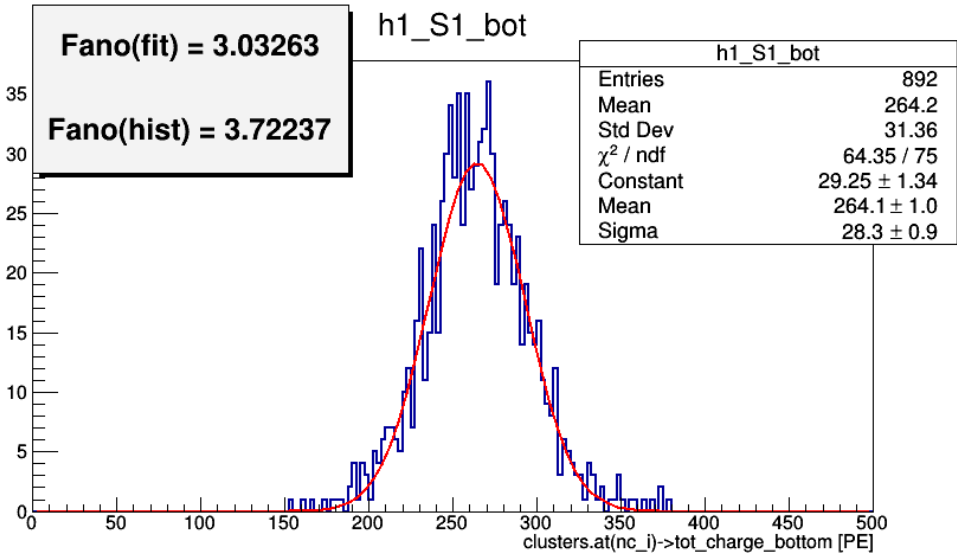


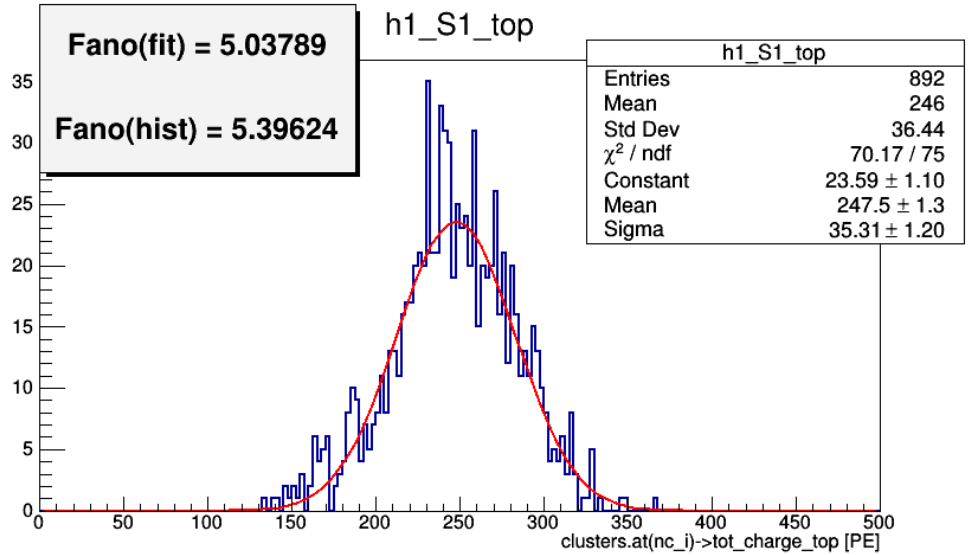
M01 == A1	M02 == A2	M03 == A3	M04 == A4
M06 == B1	M07 == B2	M05 == A5	M09 == B4
M11 == C1	M12 == C2	M08 == B3	M10 == B5
M16 == C5	M17 == D1	M15 == C4	M14 == C3
M21 == D5	M22 == E2	M20 == D4	M19 == D3
M23 == E3	M24 == E4	M18 == D2	M25 == E5

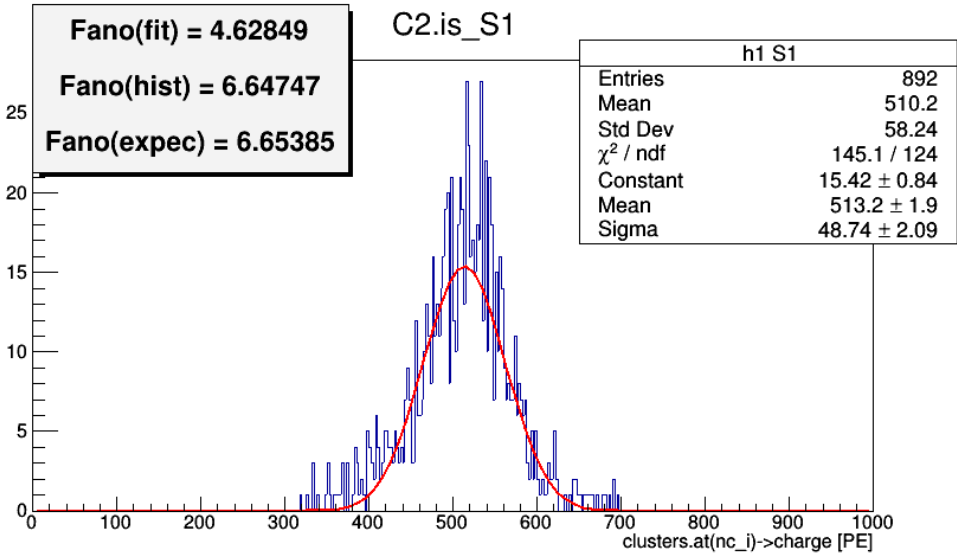
Ph2, Am241, run 537

F2	F3
F5	F4







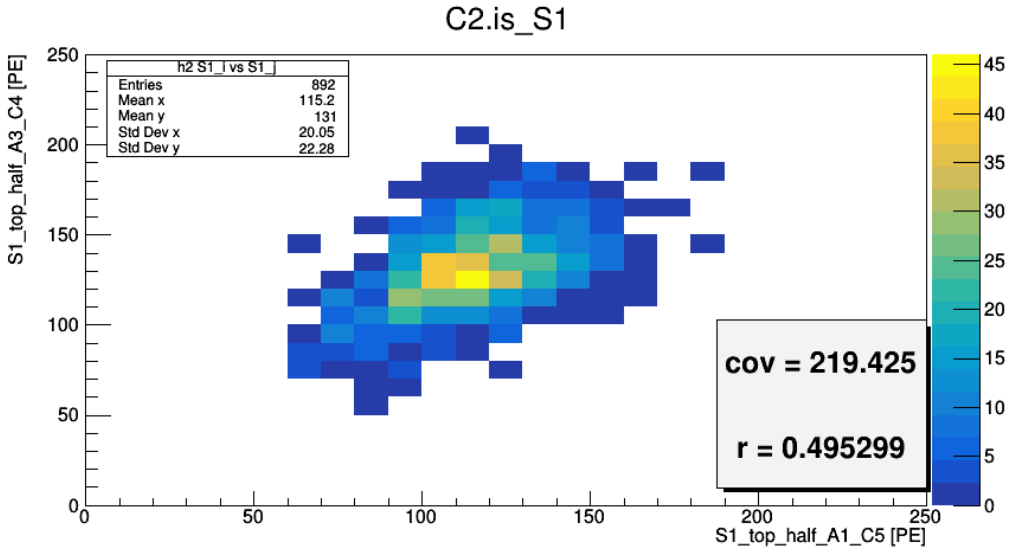


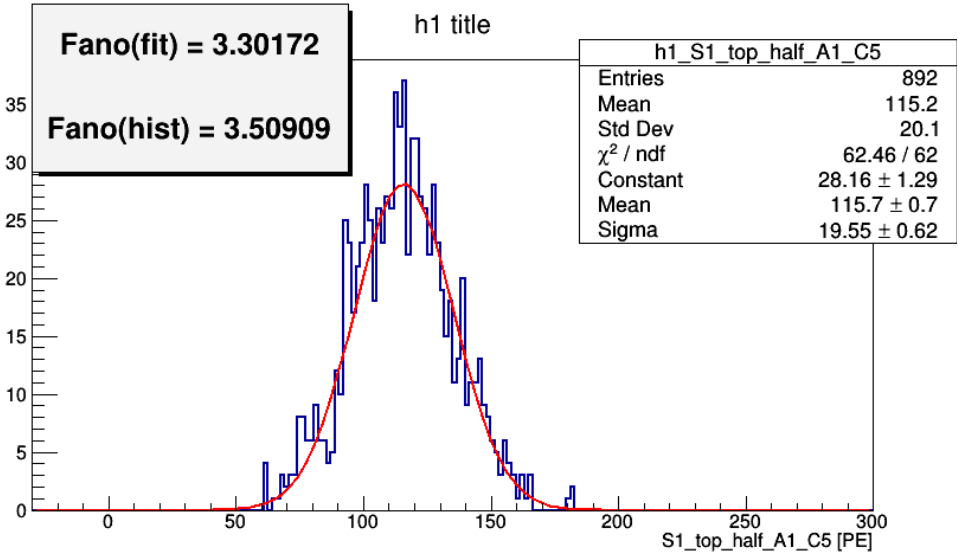

```
fano_expec = (pow(rms_i, 2.0) + pow(rms_j, 2.0) + 2*cov_r[0])/(mean_i + mean_j);
```

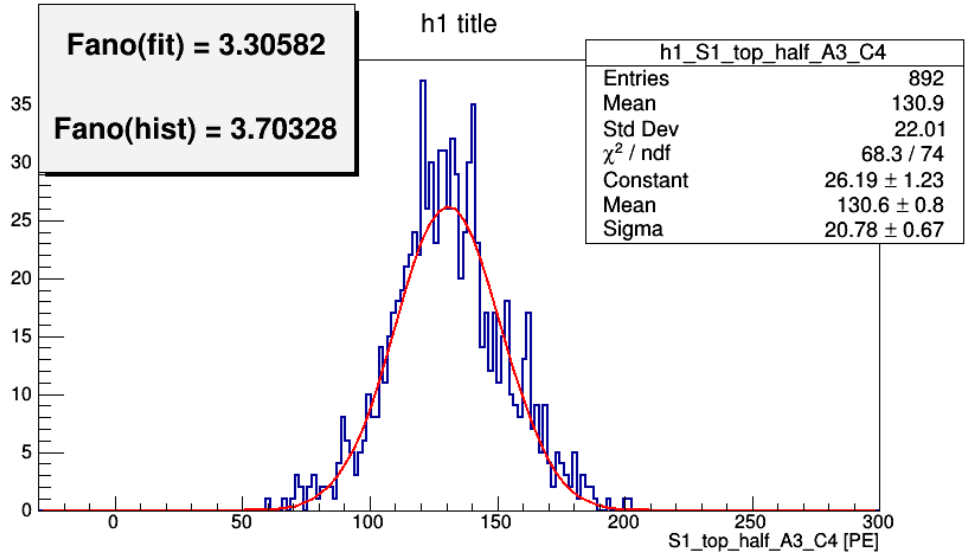
M01 == A1	M02 == A2	M03 == A3	M04 == A4
M06 == B1	M07 == B2	M05 == A5	M09 == B4
M11 == C1	M12 == C2	M08 == B3	M10 == B5
M16 == C5	M17 == D1	M15 == C4	M14 == C3
M21 == D5	M22 == E2	M20 == D4	M19 == D3
M23 == E3	M24 == E4	M18 == D2	M25 == E5

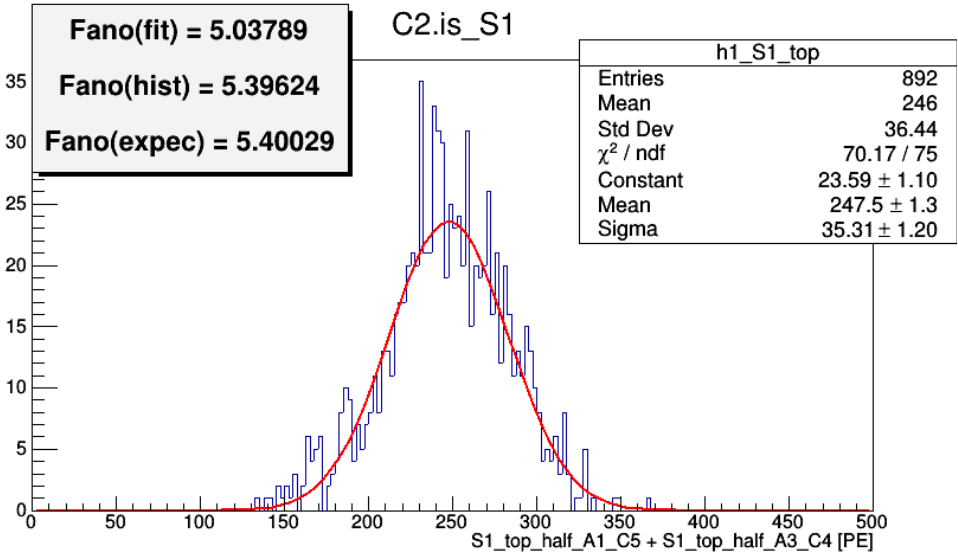
Ph2, Am241, run 537

M01 == A1	M02 == A2	M03 == A3	M04 == A4
M06 == B1	M07 == B2	M05 == A5	M09 == B4
M11 == C1	M12 == C2	M08 == B3	M10 == B5
M16 == C5	M17 == D1	M15 == C4	M14 == C3
M21 == D5	M22 == E2	M20 == D4	M19 == D3
M23 == E3	M24 == E4	M18 == D2	M25 == E5





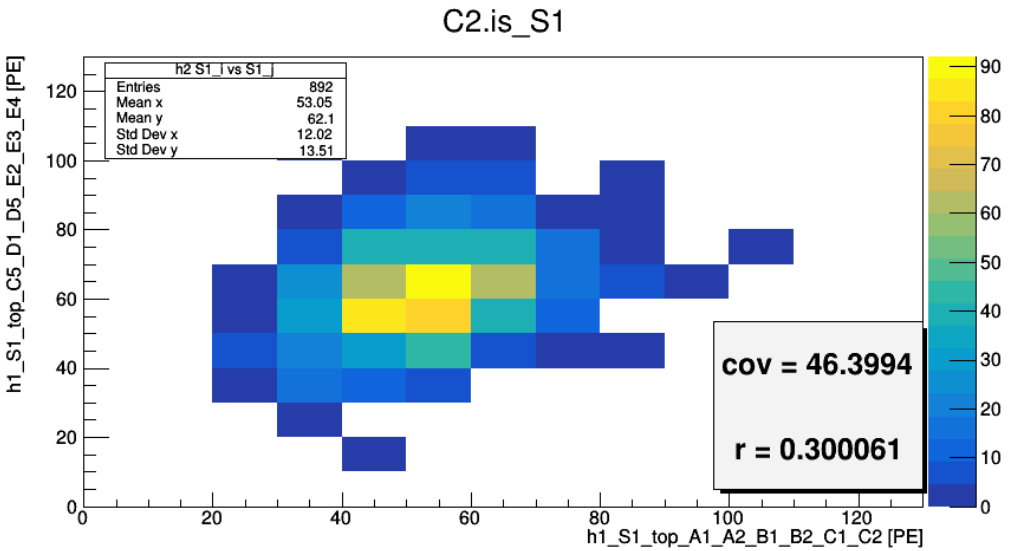


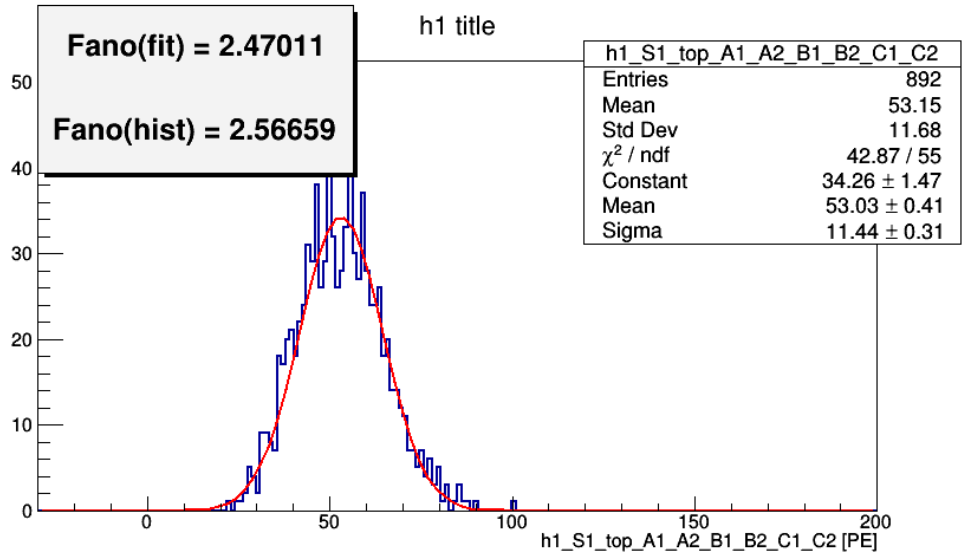


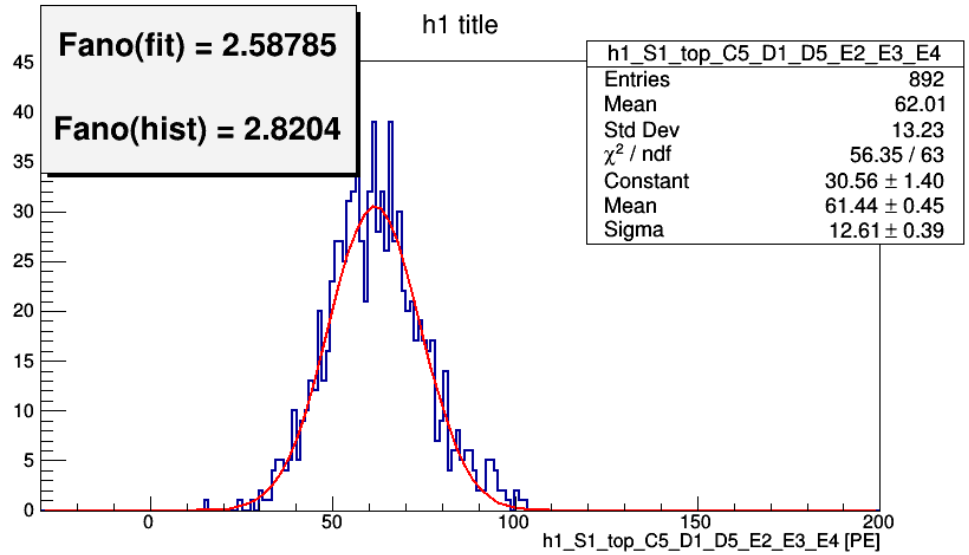
M01 == A1	M02 == A2	M03 == A3	M04 == A4
M06 == B1	M07 == B2	M05 == A5	M09 == B4
M11 == C1	M12 == C2	M08 == B3	M10 == B5
M16 == C5	M17 == D1	M15 == C4	M14 == C3
M21 == D5	M22 == E2	M20 == D4	M19 == D3
M23 == E3	M24 == E4	M18 == D2	M25 == E5

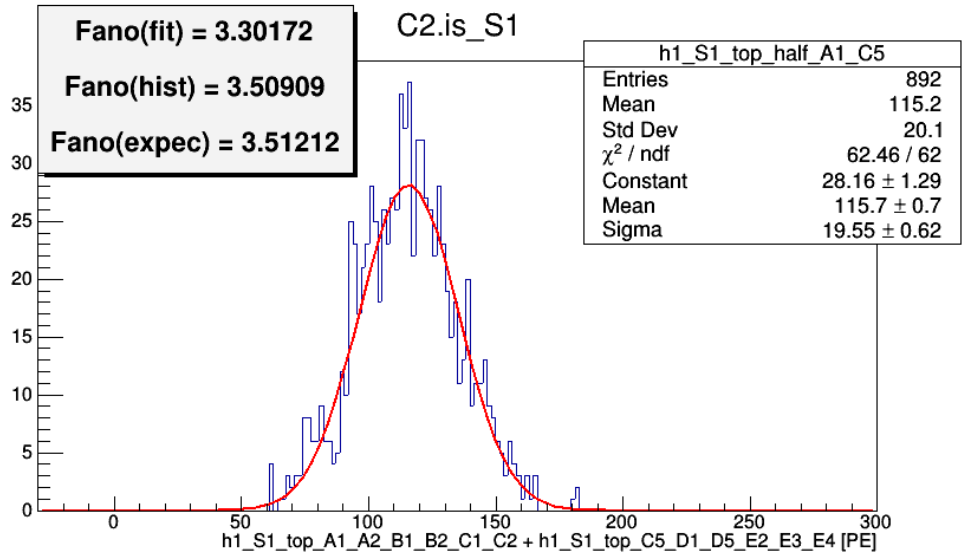
Ph2, Am241, run 537

M01 == A1	M02 == A2	M03 == A3	M04 == A4
M06 == B1	M07 == B2	M05 == A5	M09 == B4
M11 == C1	M12 == C2	M08 == B3	M10 == B5
M16 == C5	M17 == D1	M15 == C4	M14 == C3
M21 == D5	M22 == E2	M20 == D4	M19 == D3
M23 == E3	M24 == E4	M18 == D2	M25 == E5





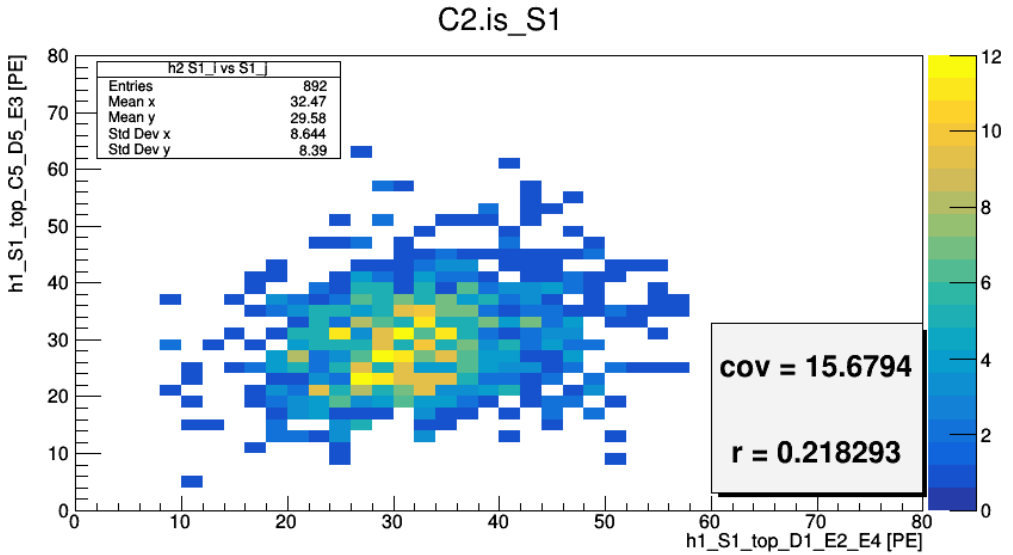


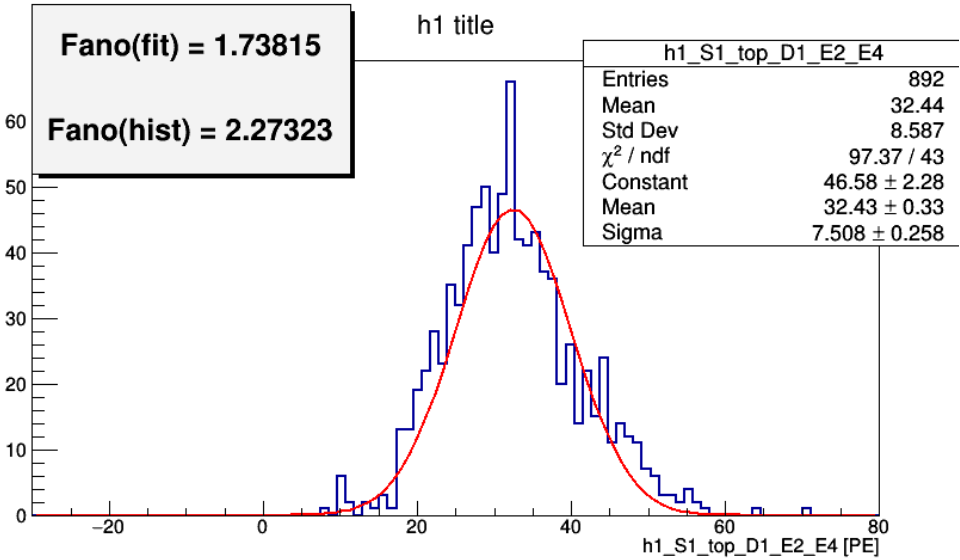


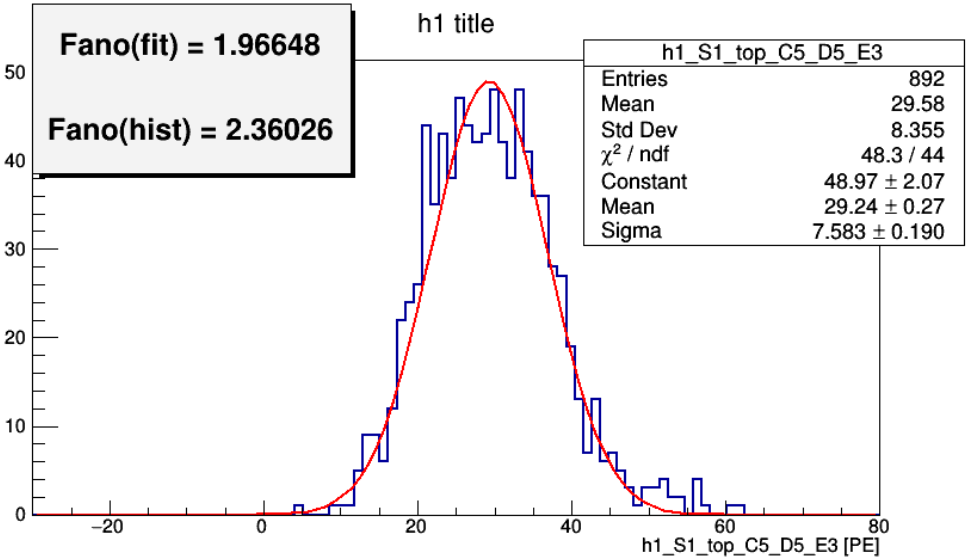
M01 == A1	M02 == A2	M03 == A3	M04 == A4
M06 == B1	M07 == B2	M05 == A5	M09 == B4
M11 == C1	M12 == C2	M08 == B3	M10 == B5
M16 == C5	M17 == D1	M15 == C4	M14 == C3
M21 == D5	M22 == E2	M20 == D4	M19 == D3
M23 == E3	M24 == E4	M18 == D2	M25 == E5

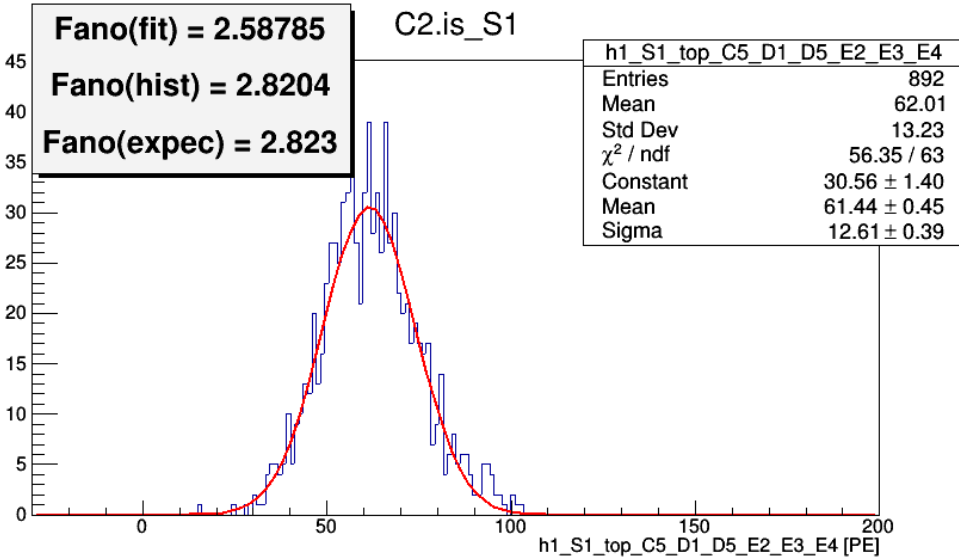
Ph2, Am241, run 537

M01 == A1	M02 == A2	M03 == A3	M04 == A4
M06 == B1	M07 == B2	M05 == A5	M09 == B4
M11 == C1	M12 == C2	M08 == B3	M10 == B5
M16 == C5	M17 == D1	M15 == C4	M14 == C3
M21 == D5	M22 == E2	M20 == D4	M19 == D3
M23 == E3	M24 == E4	M18 == D2	M25 == E5









M01 == A1	M02 == A2	M03 == A3	M04 == A4
M06 == B1	M07 == B2	M05 == A5	M09 == B4
M11 == C1	M12 == C2	M08 == B3	M10 == B5
M16 == C5	M17 == D1	M15 == C4	M14 == C3
M21 == D5	M22 == E2	M20 == D4	M19 == D3
M23 == E3	M24 == E4	M18 == D2	M25 == E5

Ph2, Am241, run 537

M01 == A1	M02 == A2	M03 == A3	M04 == A4
M06 == B1	M07 == B2	M05 == A5	M09 == B4
M11 == C1	M12 == C2	M08 == B3	M10 == B5
M16 == C5	M17 == D1	M15 == C4	M14 == C3
M21 == D5	M22 == E2	M20 == D4	M19 == D3
M23 == E3	M24 == E4	M18 == D2	M25 == E5