

Outline

1. Recent π^0 asymmetry check
2. An issue about the root files?
3. DVCS charge normalized yield **from correct true clusters**
4. Different random clusT windows don't have much impact on the slope
5. π^0 charge normalized yield and 2-D clusT distribution

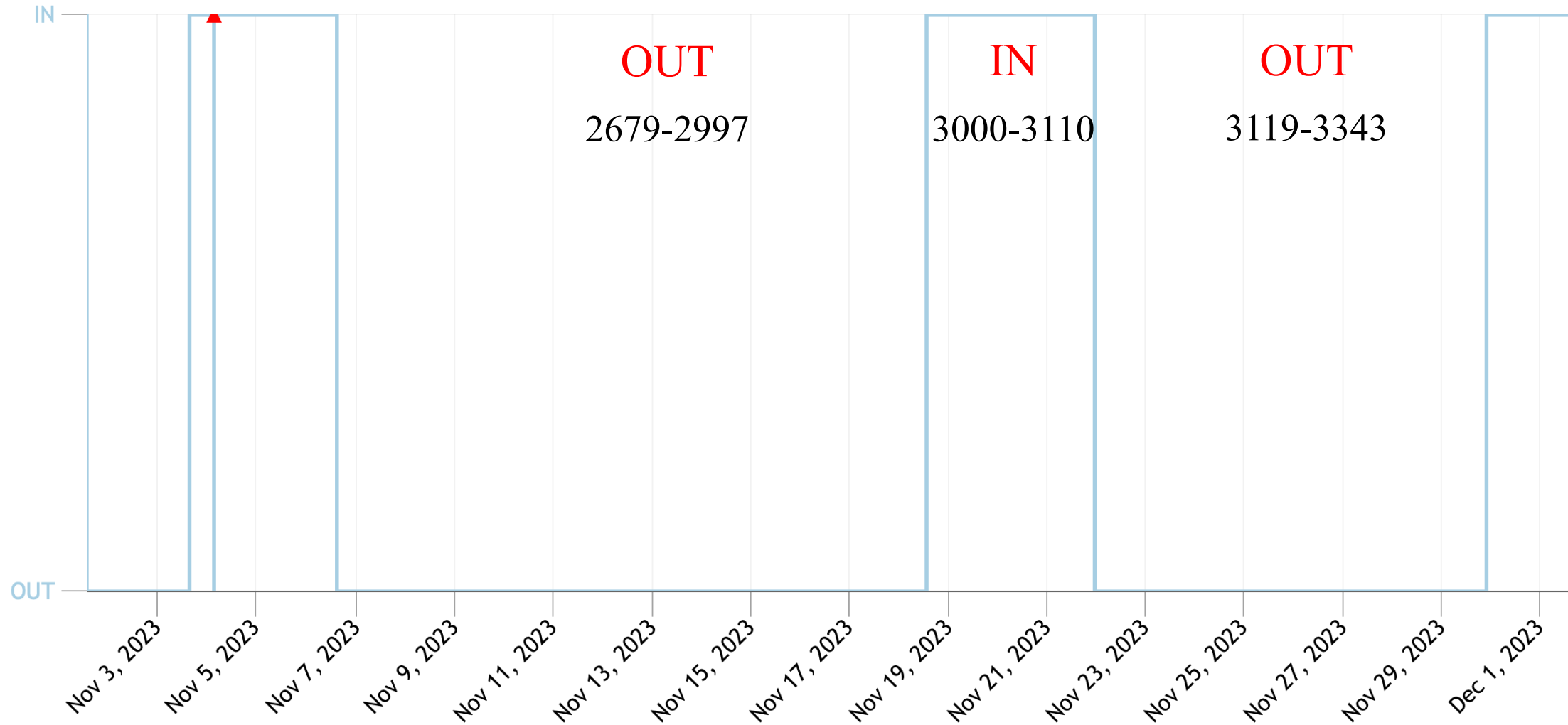
1. π^0 asymmetry

Nov 07 – Dec 01

Half-wave Plate Status

November 1 - December 1, 2023 (14:10:54 - 14:15:54)

— IGL11000D16_16

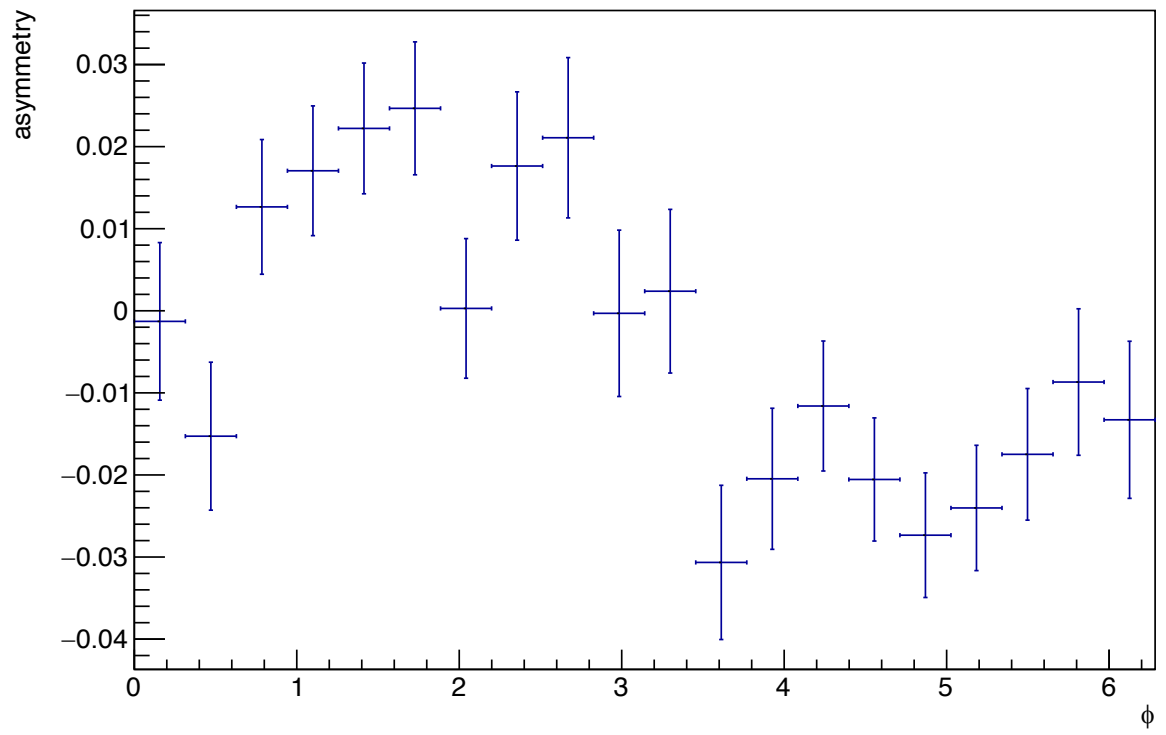


1. π^0 asymmetry

Nov 07 – Dec 01

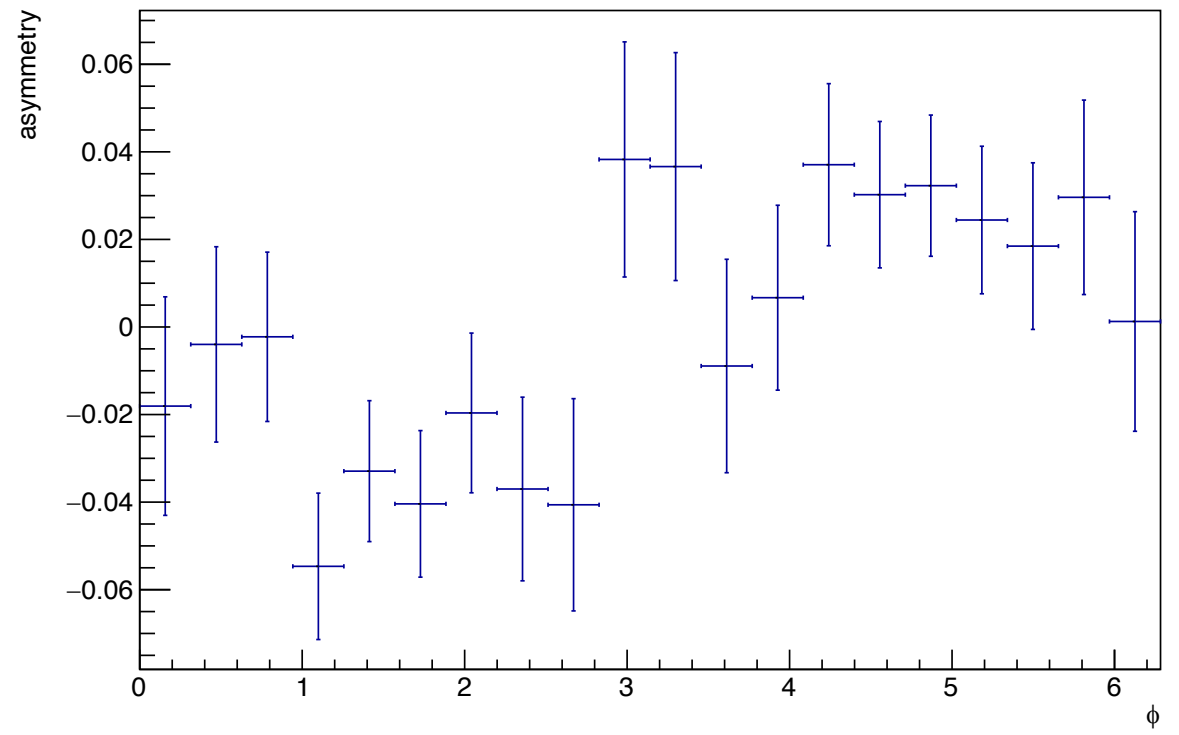
π^0 asymmetry vs. ϕ

π^0 asymmetry



OUT 2679-2997 & 3119-3343

π^0 asymmetry



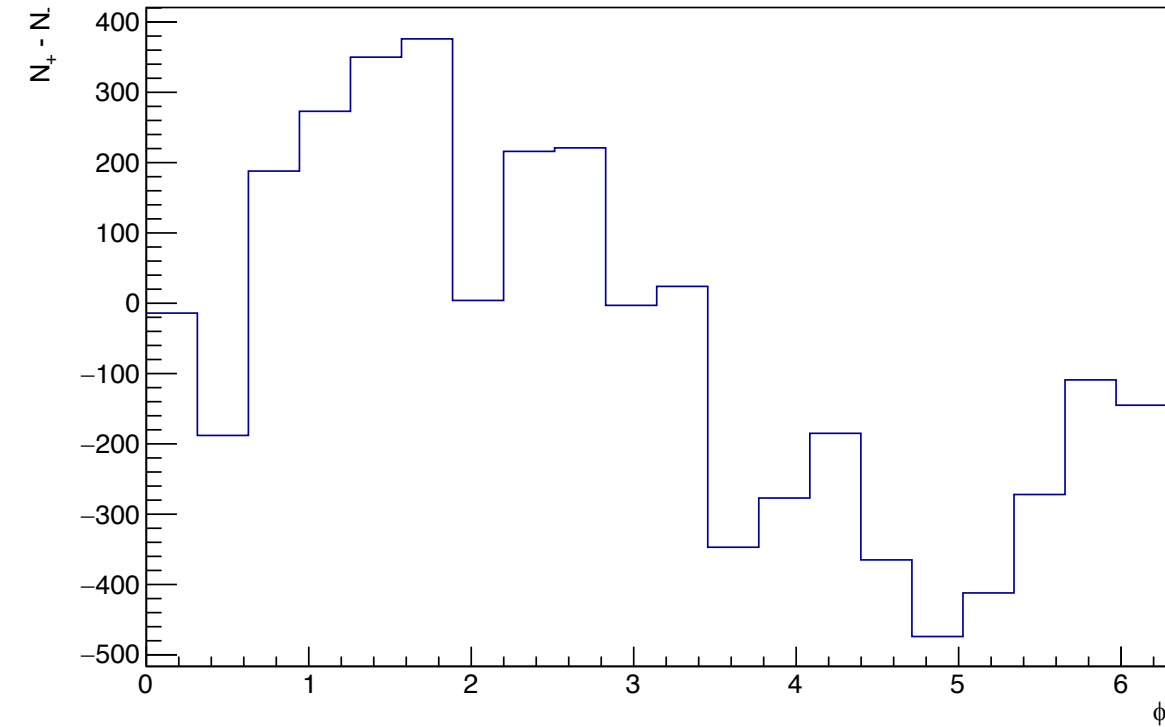
IN 3000-3110

1. π^0 asymmetry

Nov 07 – Dec 01

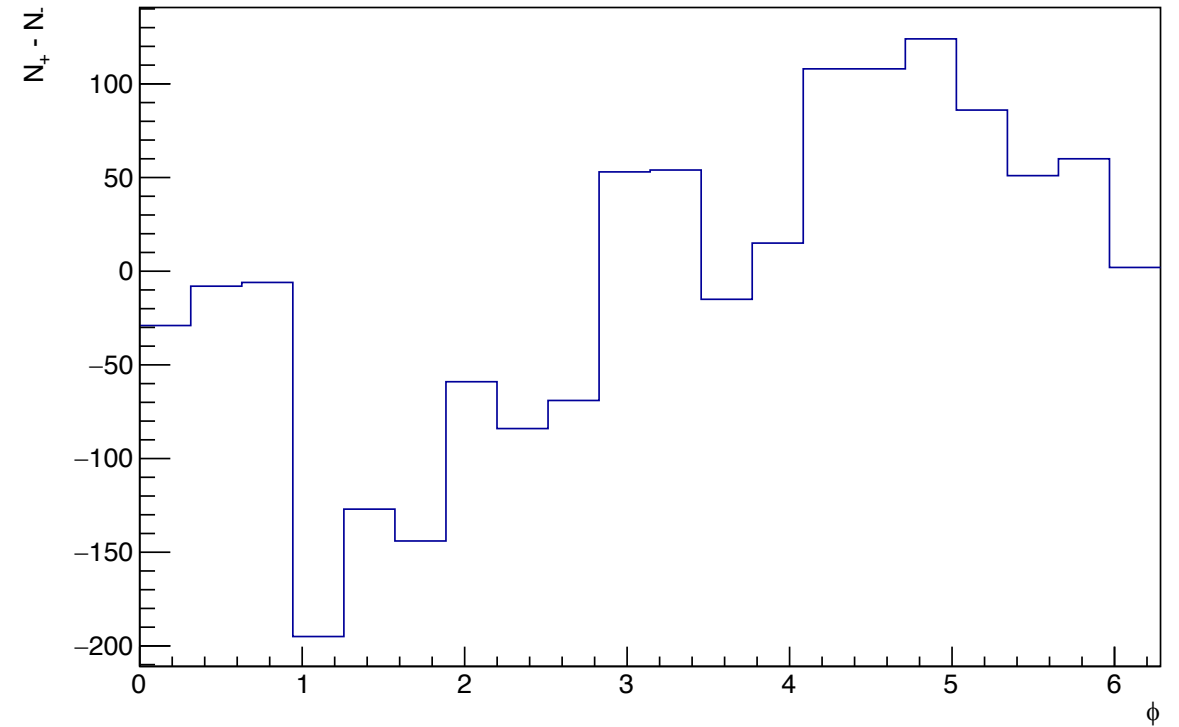
$\pi^0 N_+ - N_-$ vs. ϕ

$\pi^0 N_+ - N_-$



OUT 2679-2997 & 3119-3343

$\pi^0 N_+ - N_-$



IN 3000-3110

2. An issue about the root file

Nov 02
run 2325

eventNo clustNo clusE[0] clusE[1] clusE[2] clusE[3]

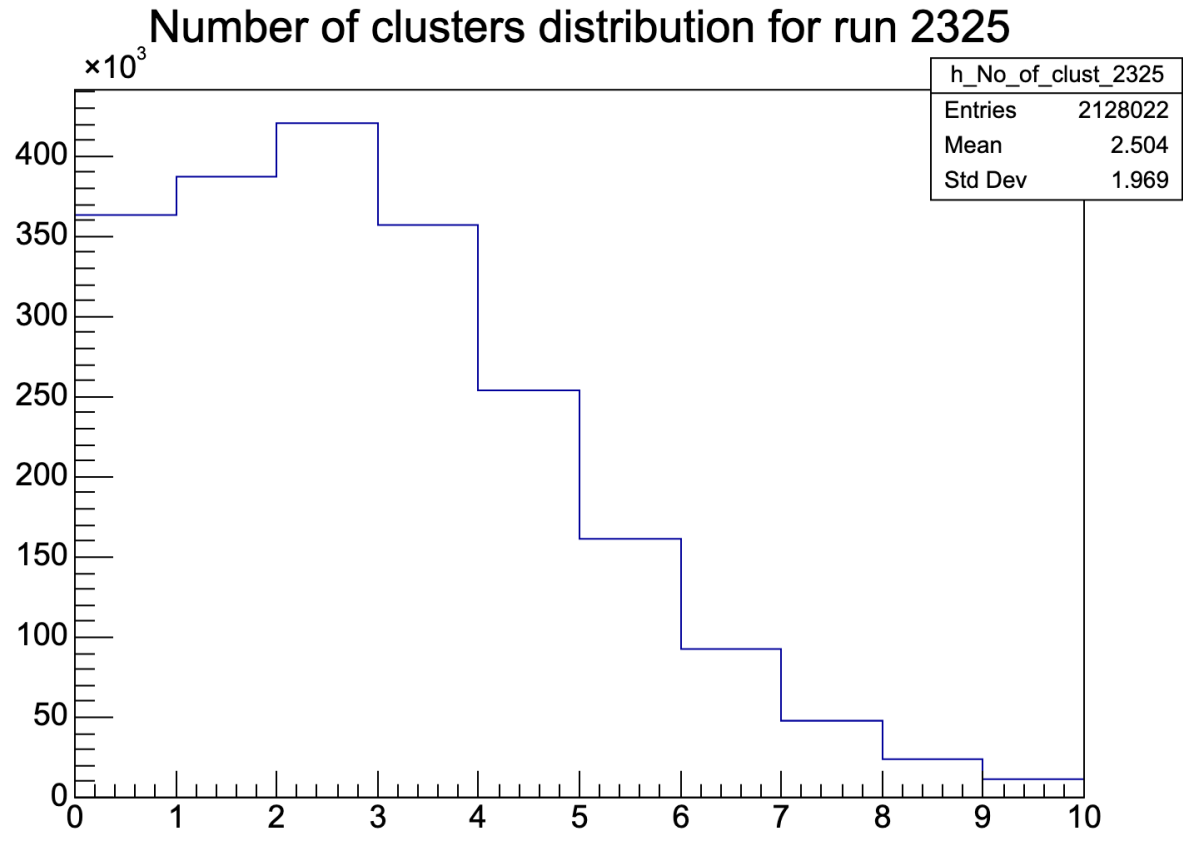
0	1	2.56038	6.93213e-310	0	3.30597e-316
1	0	2.56038	6.93213e-310	0	3.30597e-316
2	0	2.56038	6.93213e-310	0	3.30597e-316
3	1	2.11382	6.93213e-310	0	3.30597e-316
4	1	1.6454	6.93213e-310	0	3.30597e-316
5	1	1.99579	6.93213e-310	0	3.30597e-316
6	4	1.07849	1.94732	0.0965719	0.987683
7	3	0.0597085	2.02077	0.766368	0.987683
8	0	0.0597085	2.02077	0.766368	0.987683
9	2	0.772832	1.80418	0.766368	0.987683

Nov 29
run 2325

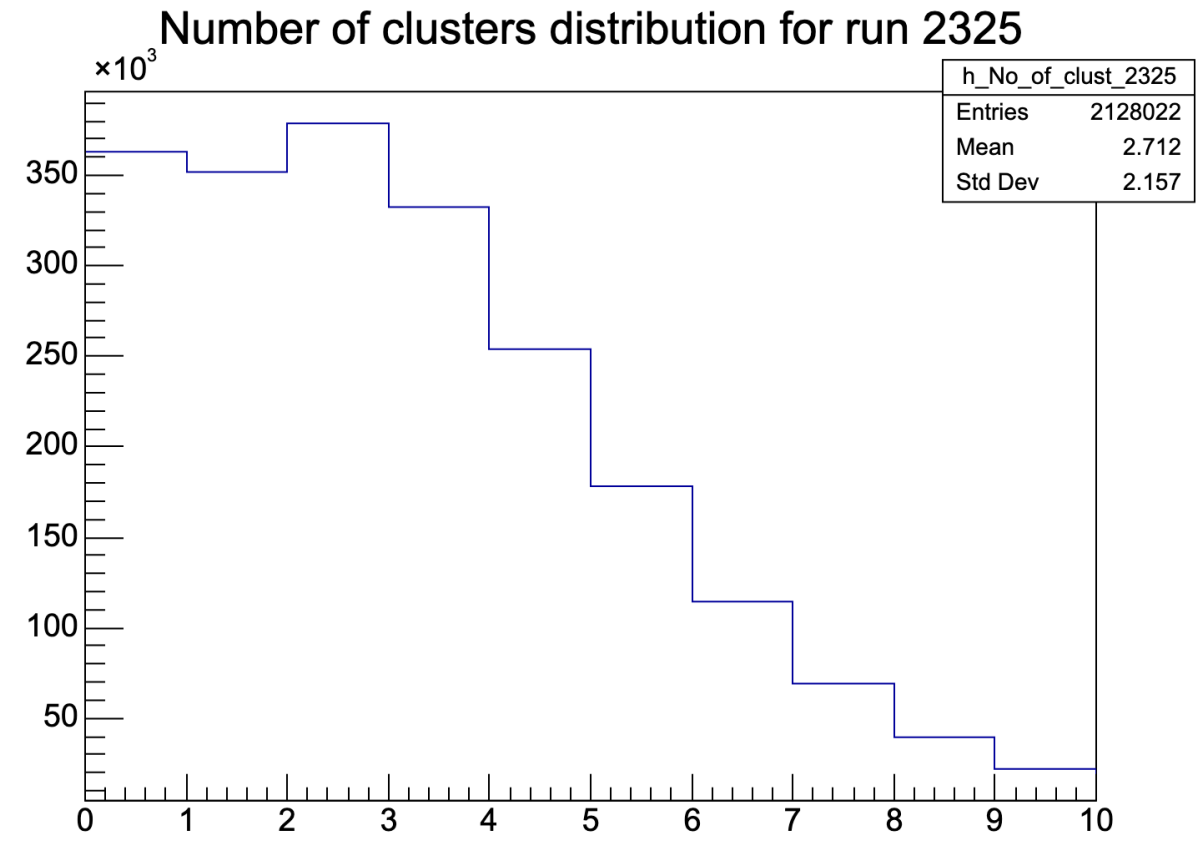
eventNo clustNo clusE[0] clusE[1] clusE[2] clusE[3]

0	1	2.56038	6.91378e-310	0	4.1843e-316
1	0	2.56038	6.91378e-310	0	4.1843e-316
2	0	2.56038	6.91378e-310	0	4.1843e-316
3	3	1.70031	0.056071	0.357438	4.1843e-316
4	1	1.6454	0	0	0
5	1	1.99579	0	0	0
6	4	0.987683	1.94732	0.0965719	1.07849
7	3	0.0597085	0.766368	2.02077	1.07849
8	0	0.0597085	0.766368	2.02077	1.07849
9	2	0.772832	1.80418	2.02077	1.07849

2. An issue about the root file



Nov 02



Nov 29

3. DVCS charge normalized yield

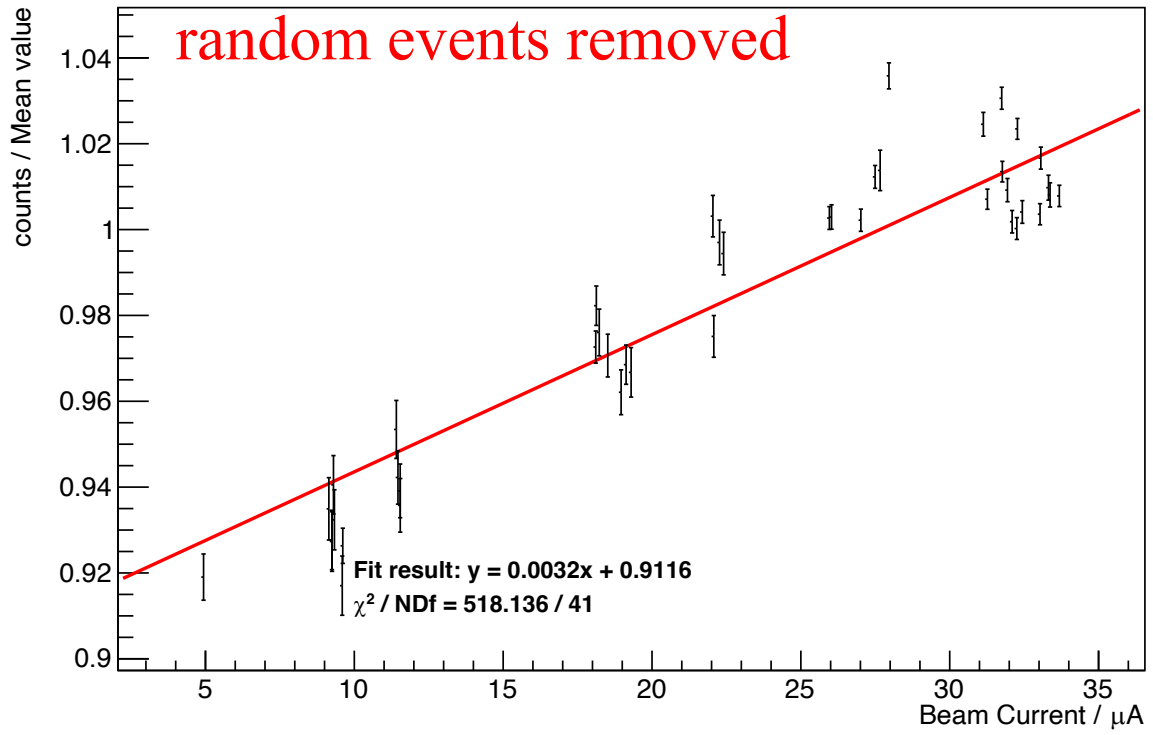
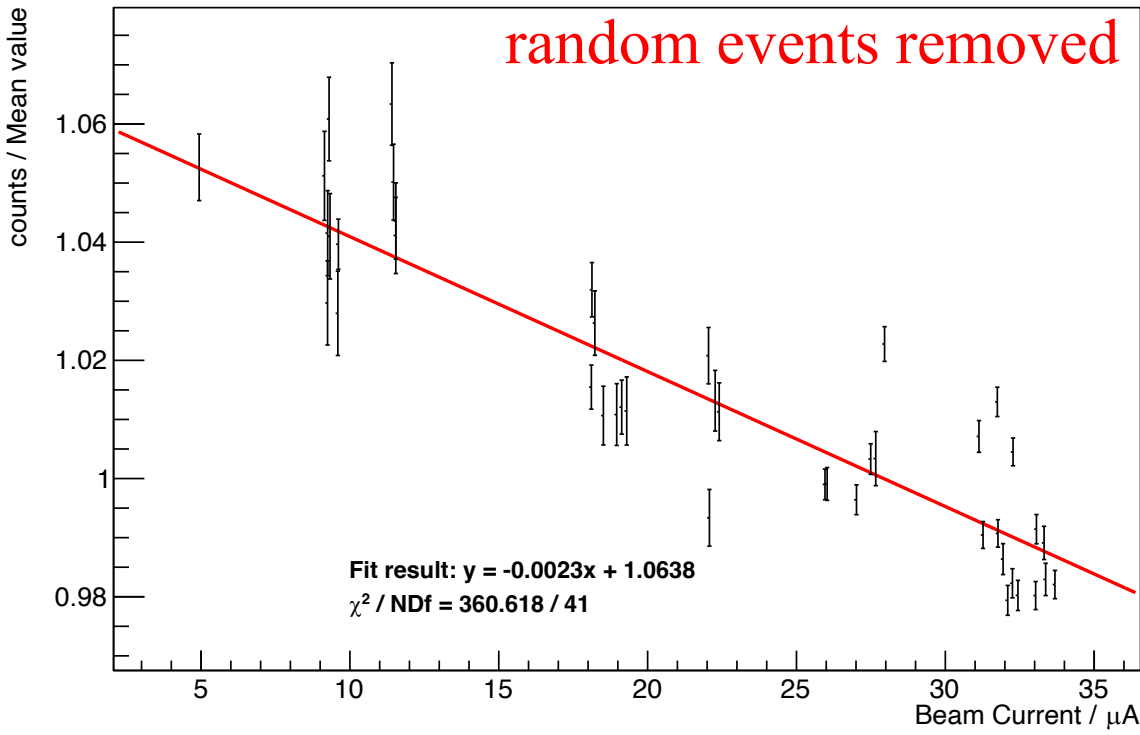
LH2, $145 < clusT < 155$

dvcs selection: $E_{max} > 1.2$

Only ps6 production good runs

Charge normalized DVCS events(LH2) / Mean value

Charge normalized DVCS events(LH2) / Mean value



Include some $n_{clust} = 0$ events

No $n_{clust} = 0$ events

negative slope

positive slope



4. Different random clusT windows

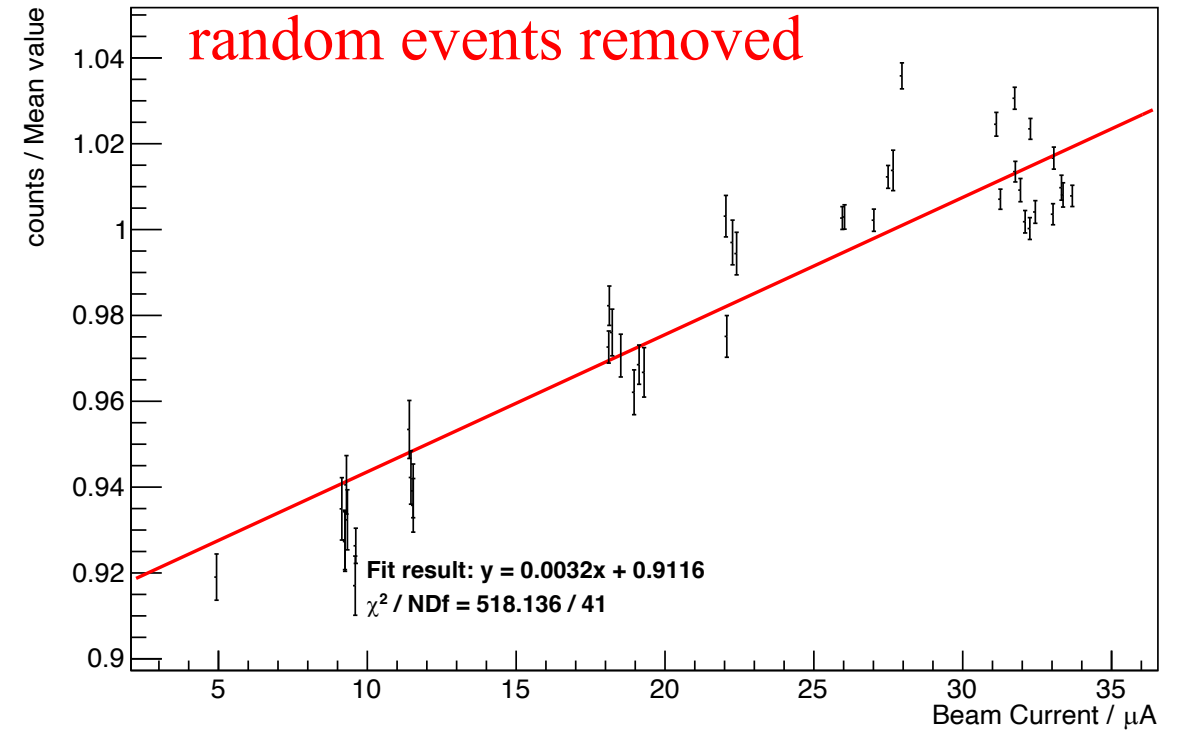
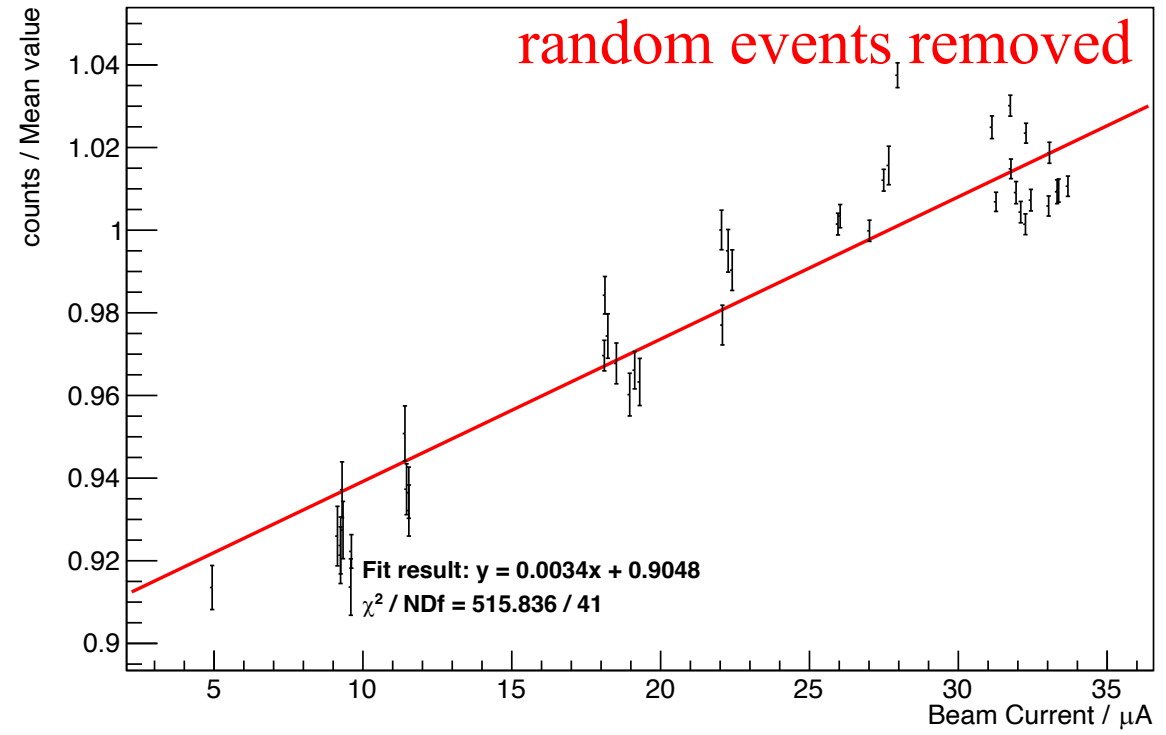
LH2, $145 < clusT < 155$

dvcs selection: $E_{max} > 1.2$

Only ps6 production good runs

Charge normalized DVCS events(LH2) / Mean value

Charge normalized DVCS events(LH2) / Mean value



Random clusT window

Random clusT window

$115 < clusT < 125$ & $175 < clusT < 185$

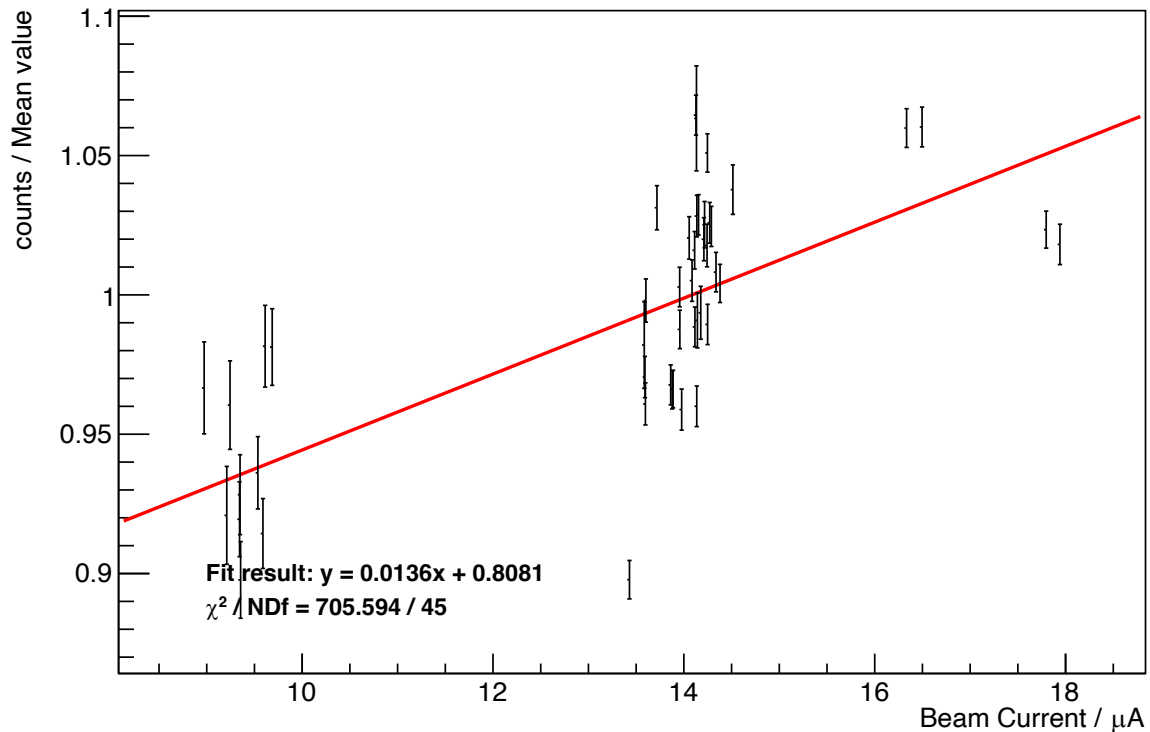
$135 < clusT < 145$ & $155 < clusT < 165$

5. π^0 charge normalized yield

LD2, $145 < clusT < 155$

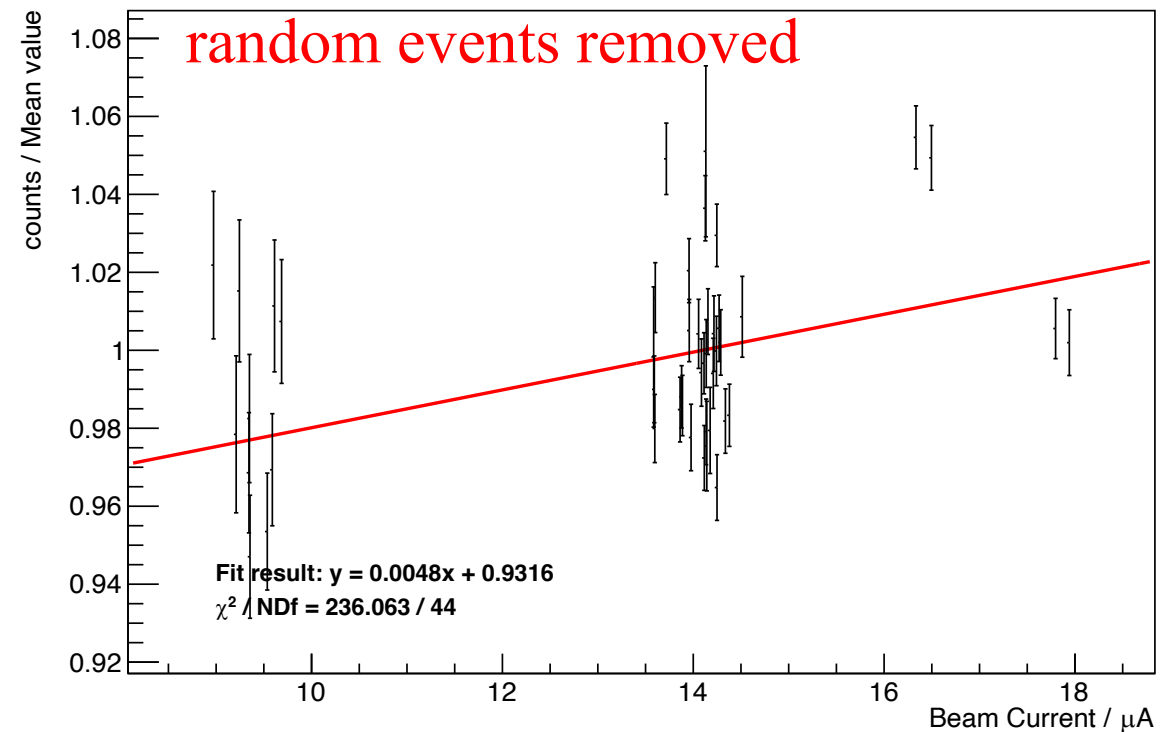
Only ps6 production good runs

Charge normalized pi0 events(LD2) / Mean value



Raw

Charge normalized pi0 events(LD2) / Mean value



Random events subtracted

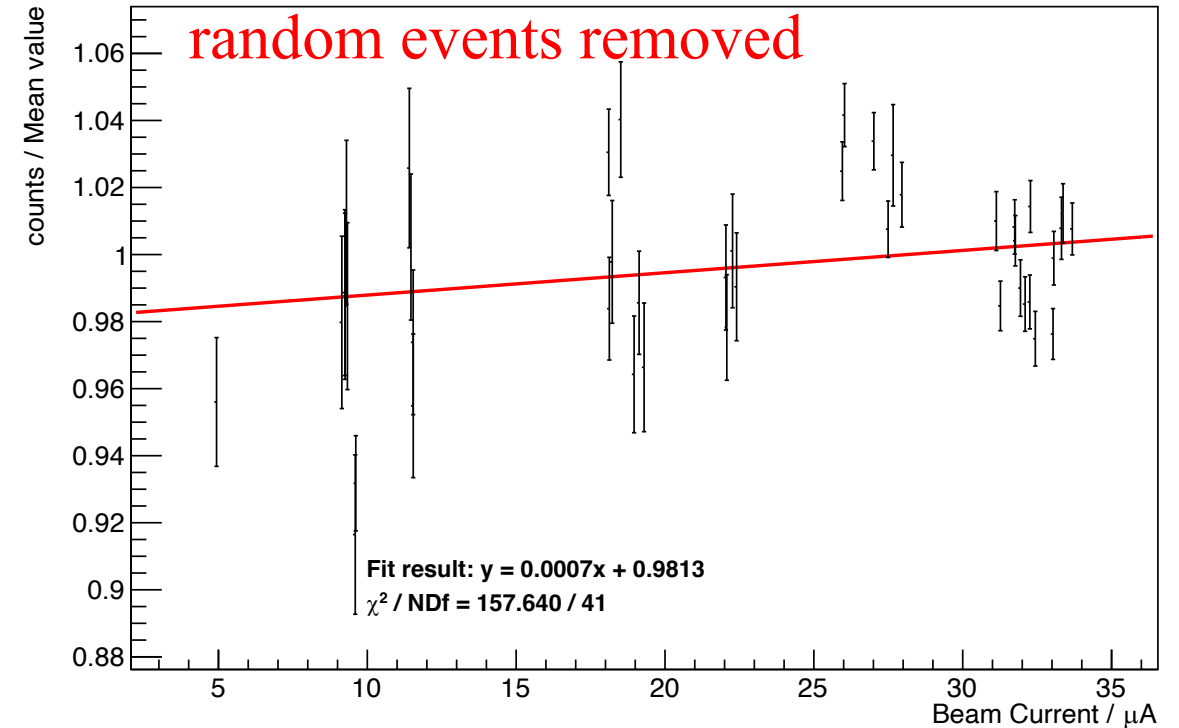
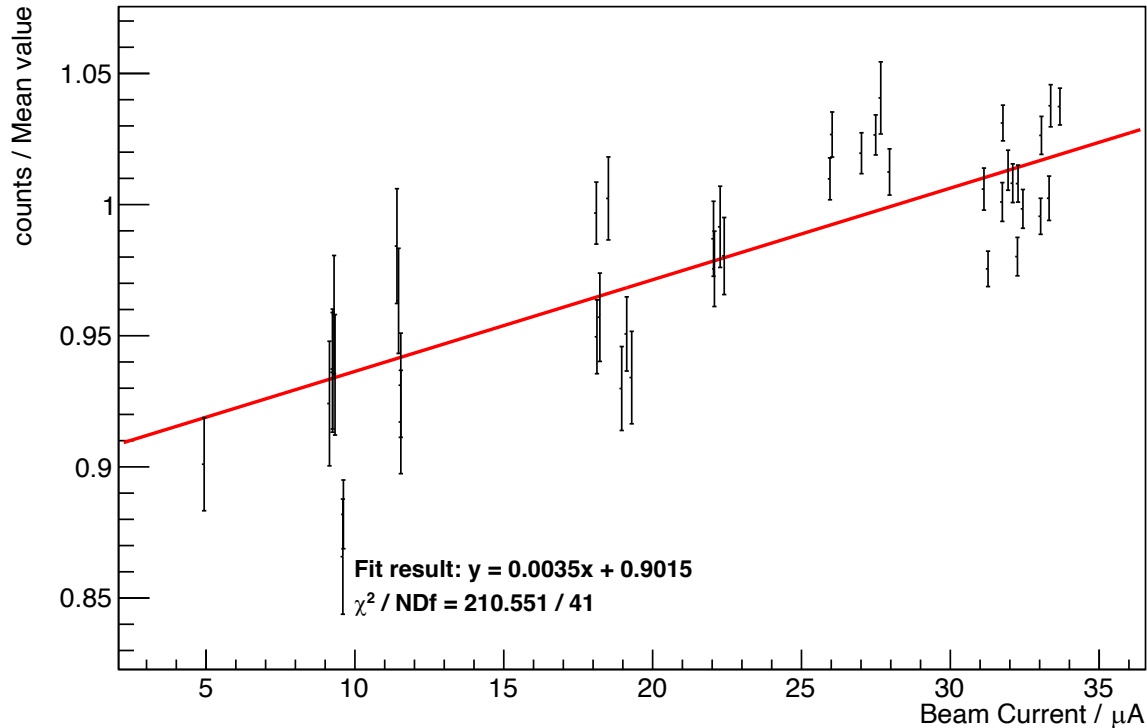
5. π^0 charge normalized yield

LH2, $145 < clusT < 155$

Only ps6 production good runs

Charge normalized pi0 events(LH2) / Mean value

Charge normalized pi0 events(LH2) / Mean value

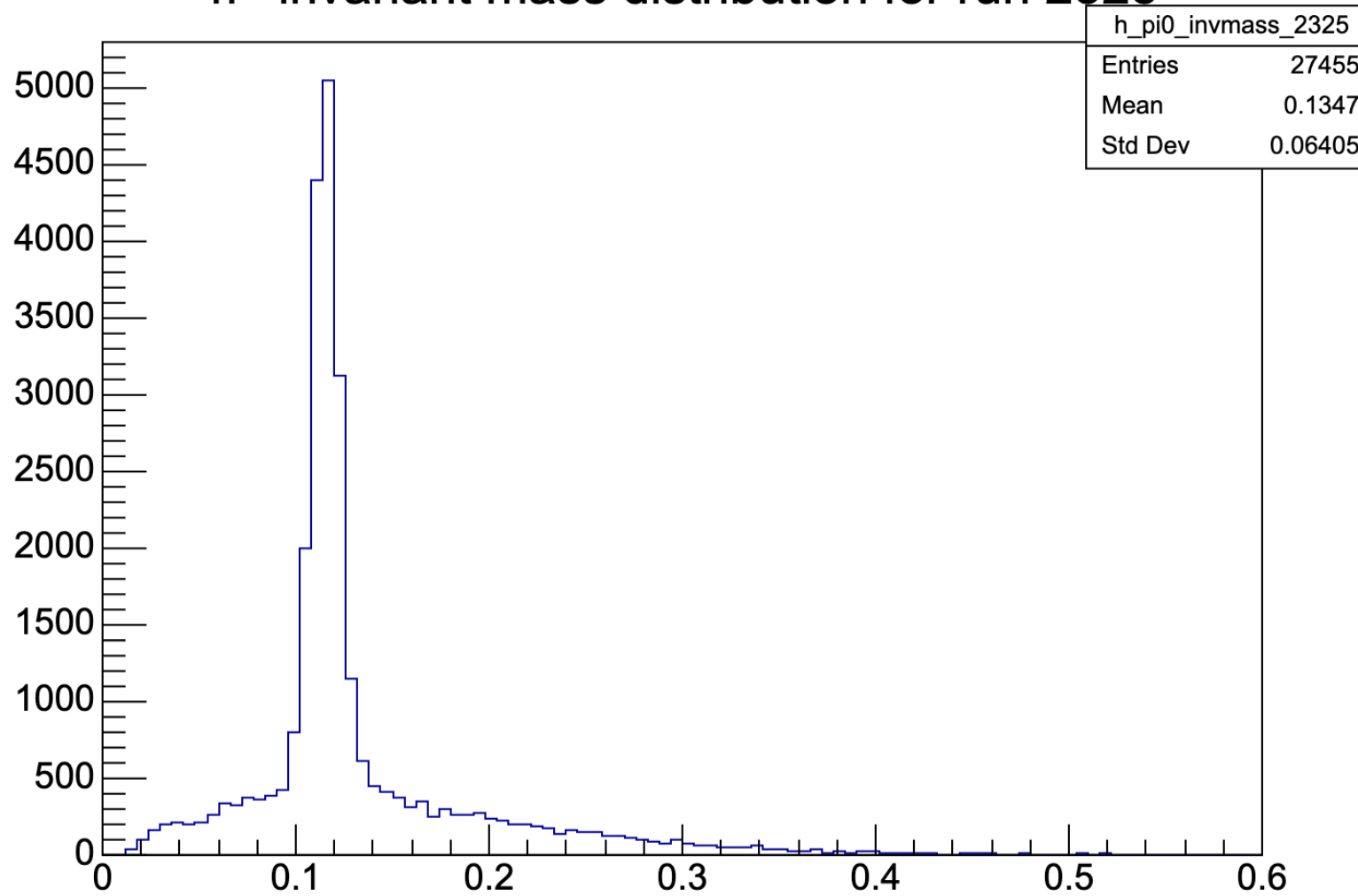


Raw

Random events subtracted

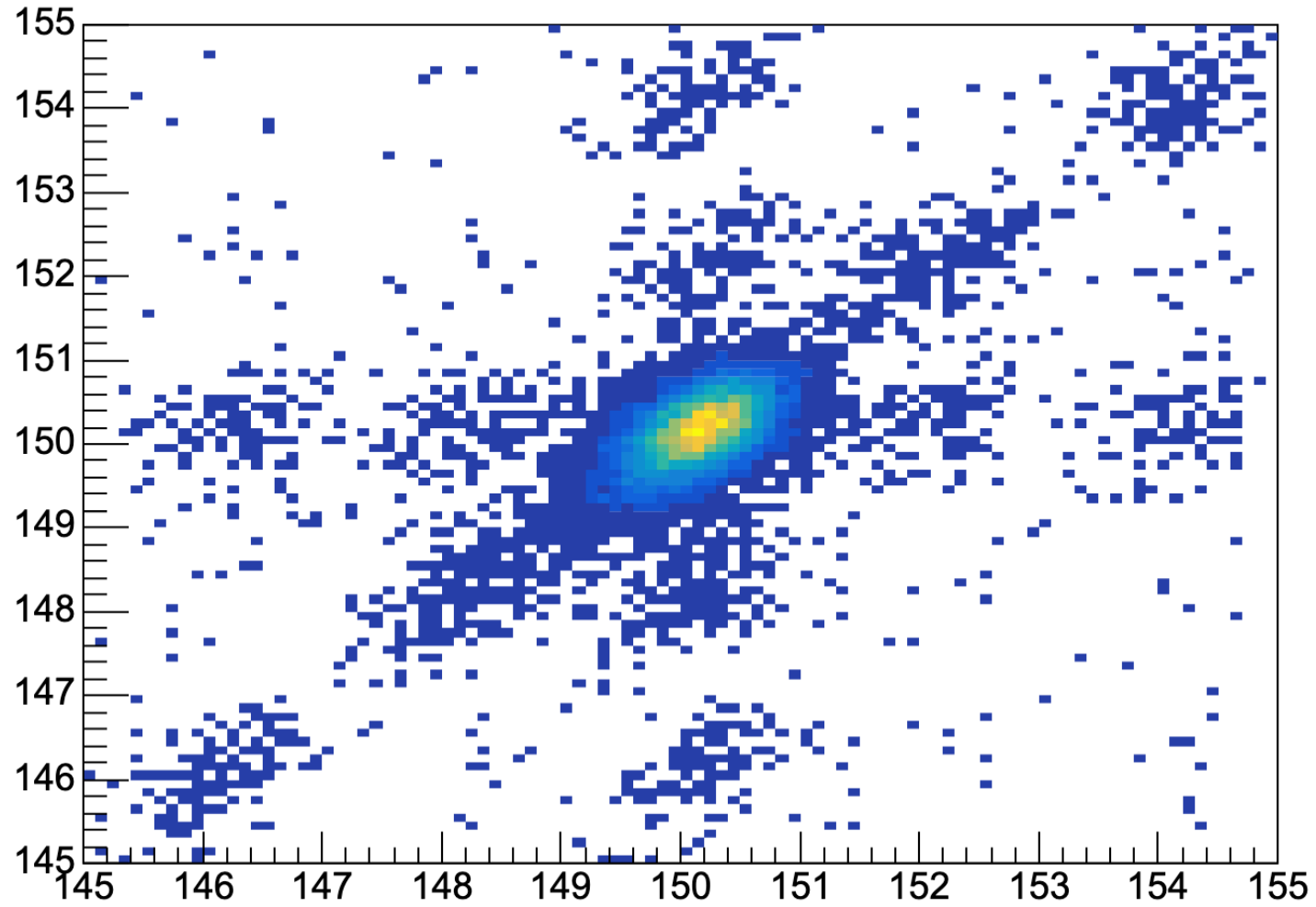
5. π^0 invariant mass distribution

π^0 invariant mass distribution for run 2325






5. π^0 *clusT*₁ vs. *clusT*₂

clusT1 vs. clusT2 for run 2325



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5. π^0 charge normalized yield and 2-D clusT distribution (On going)