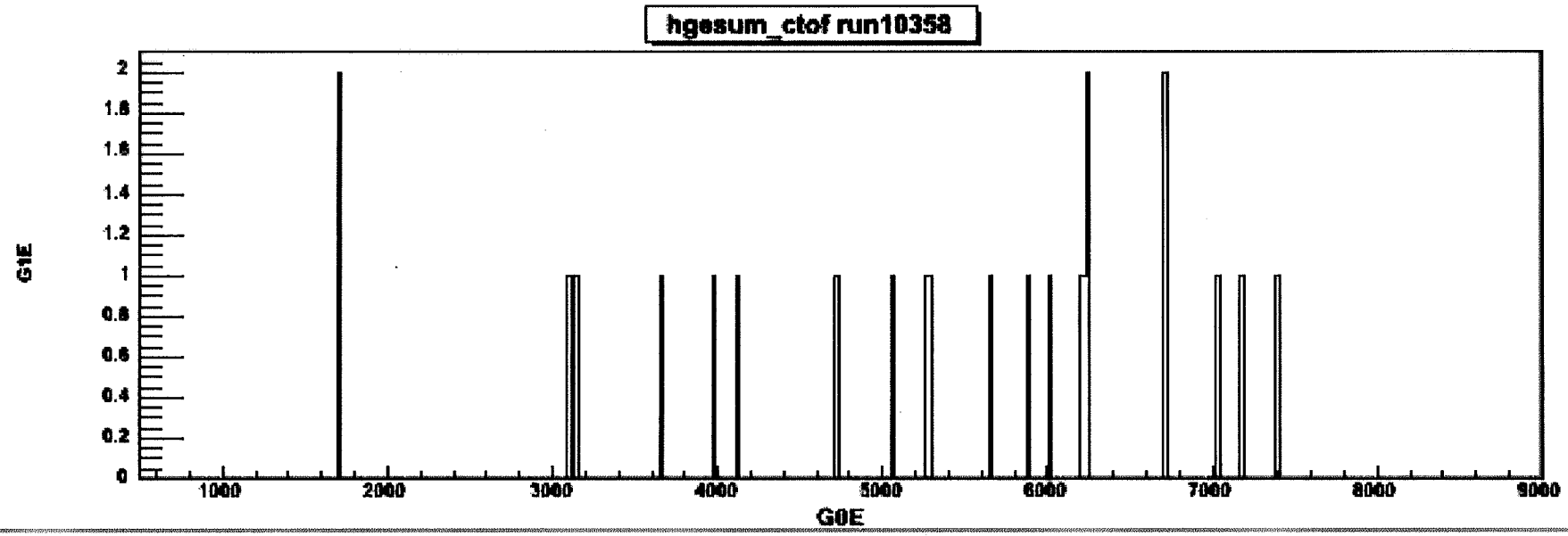
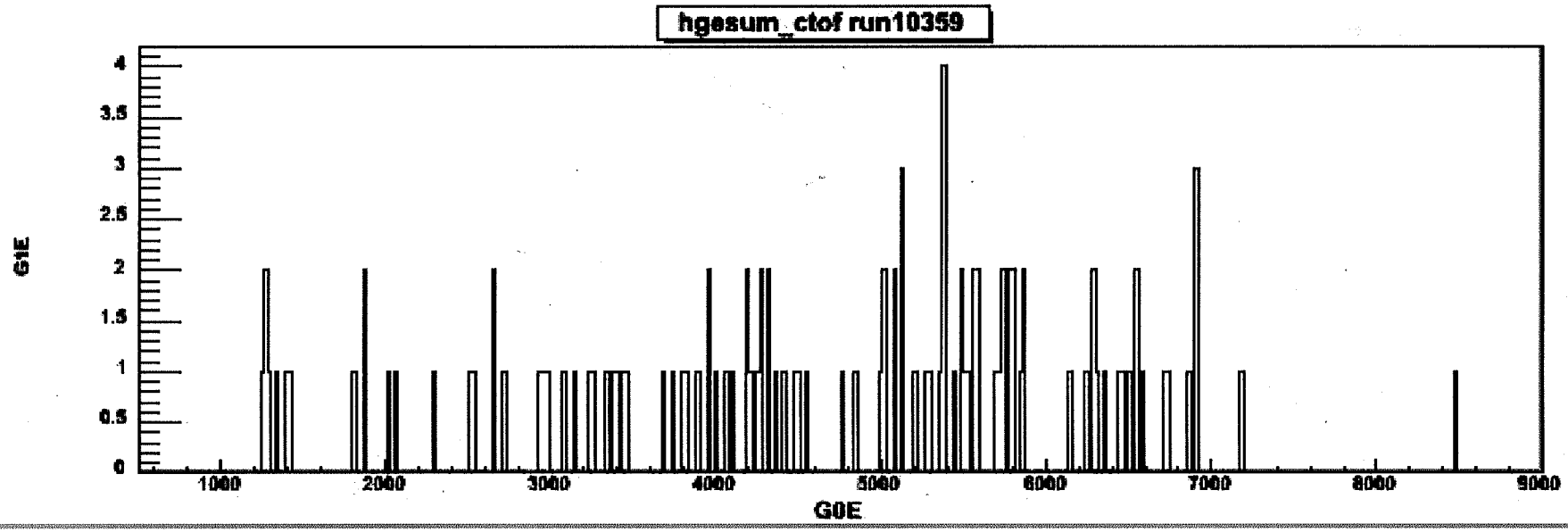
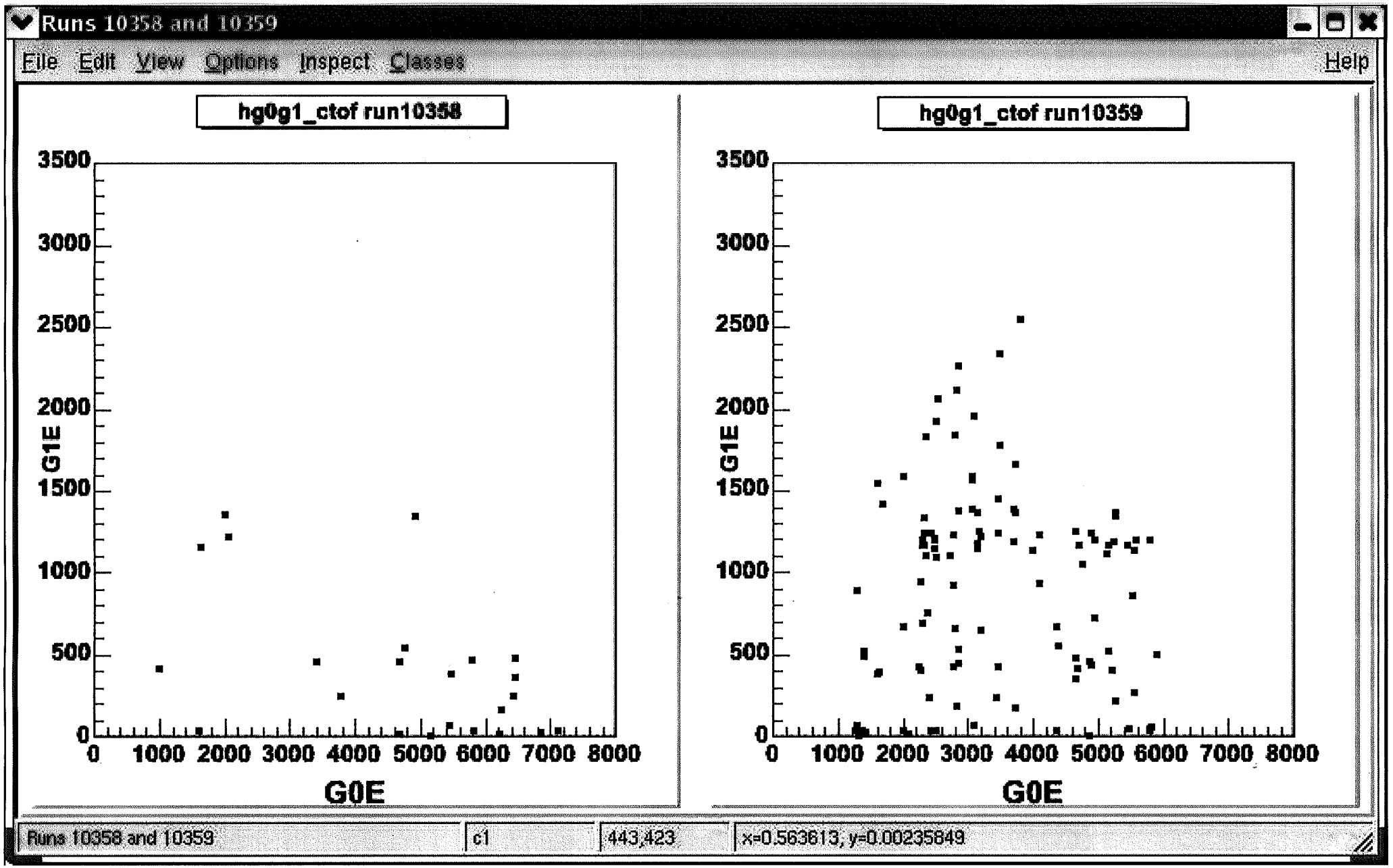
Runs 10358 and 10359

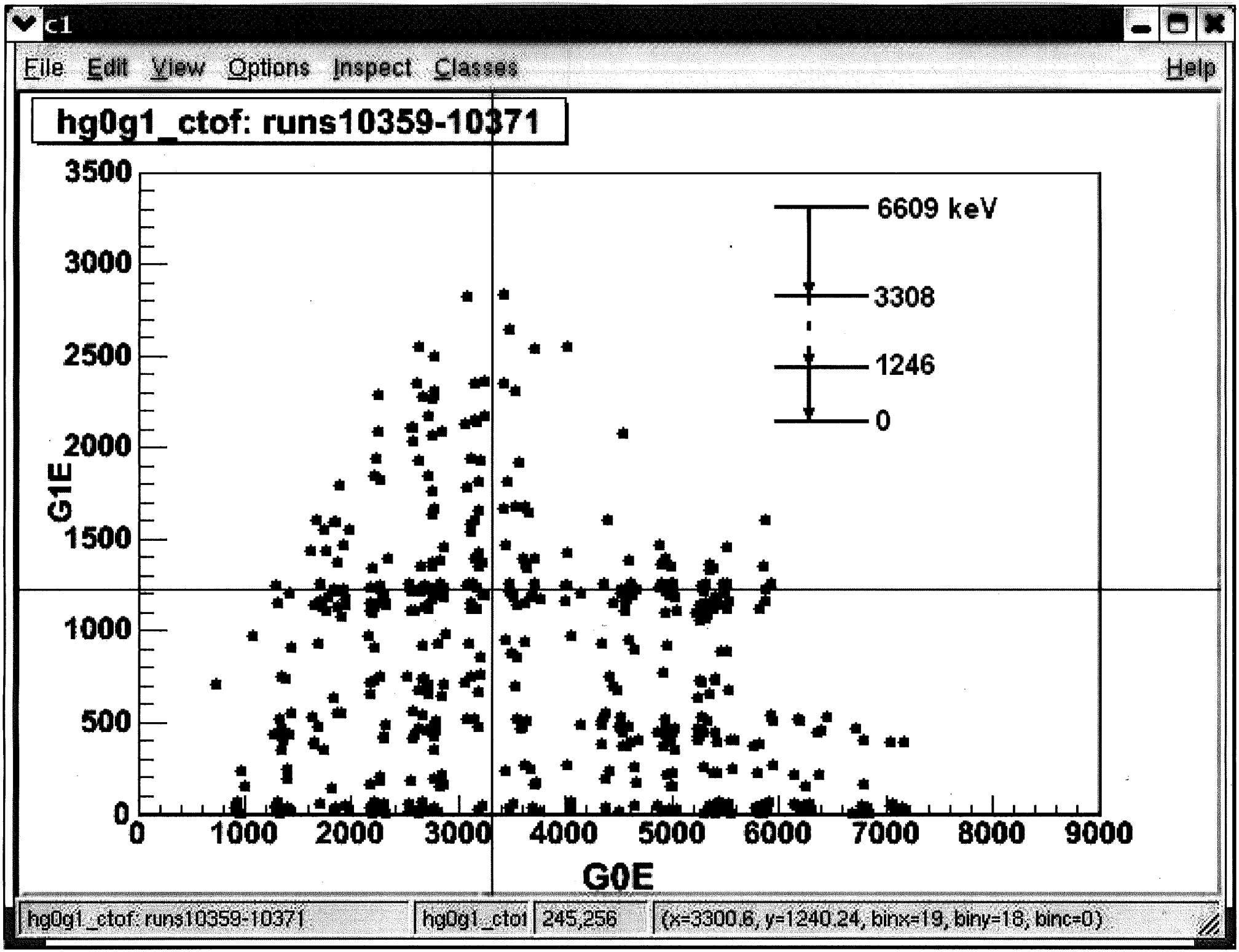
File Edit View Options Inspect Classes Help

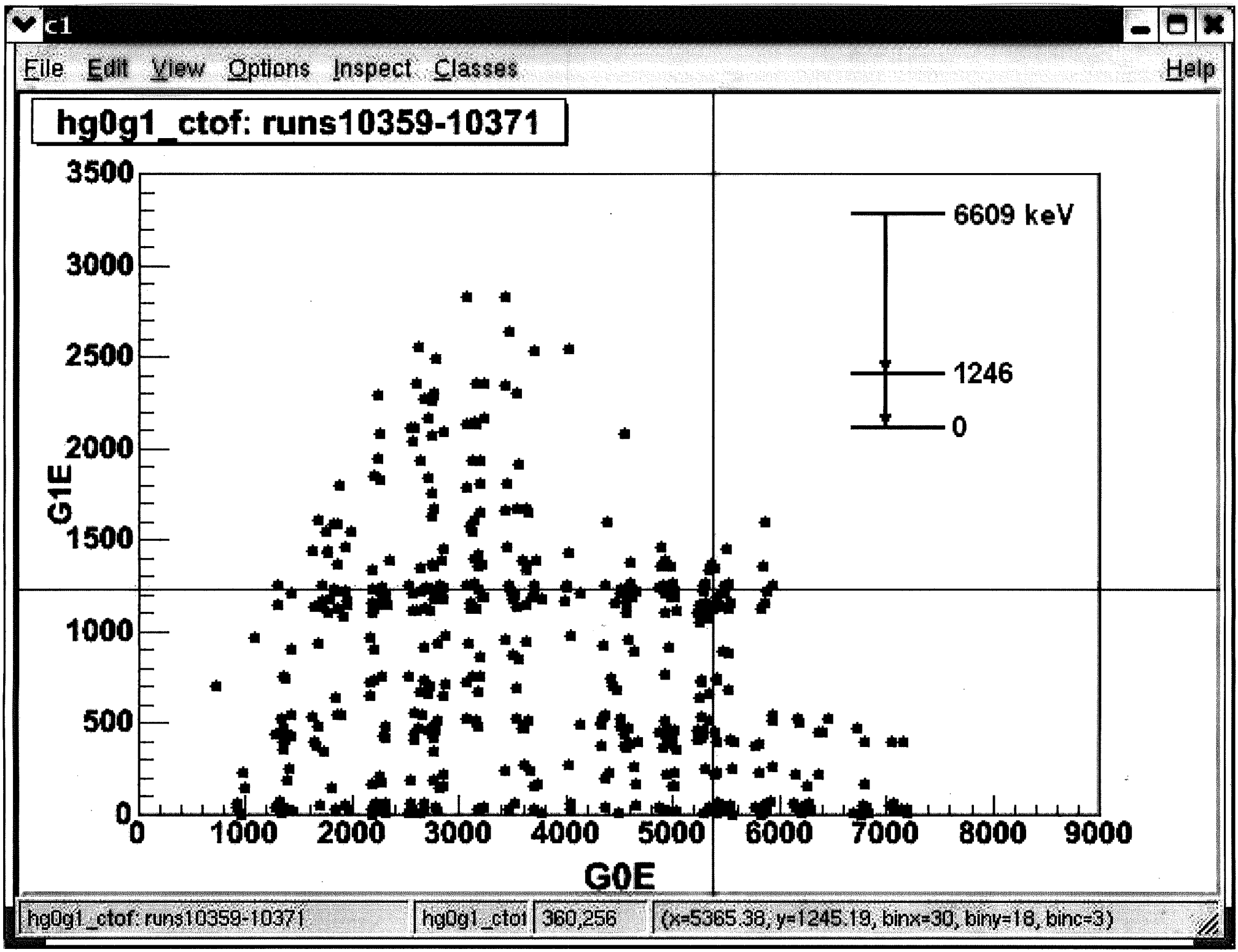


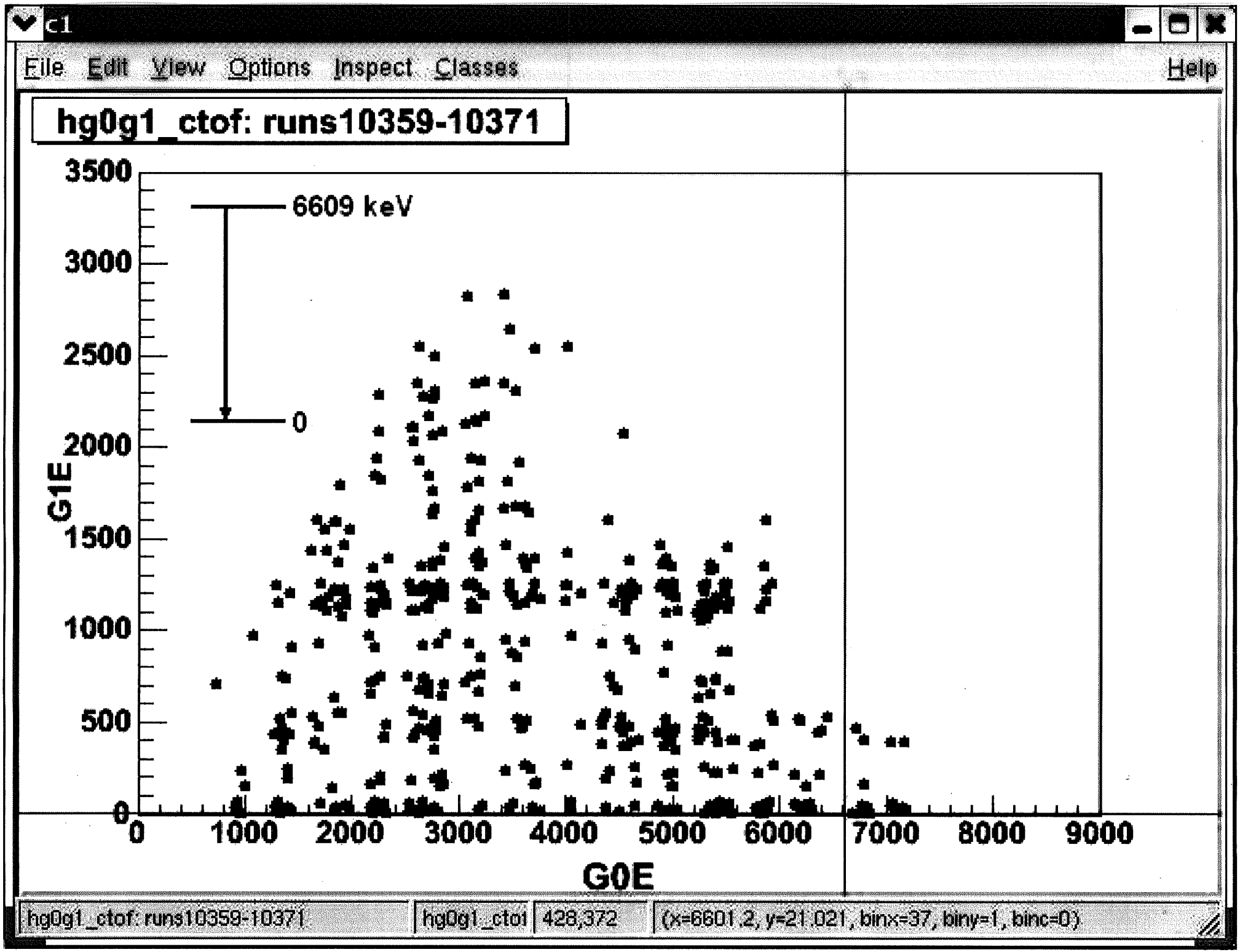


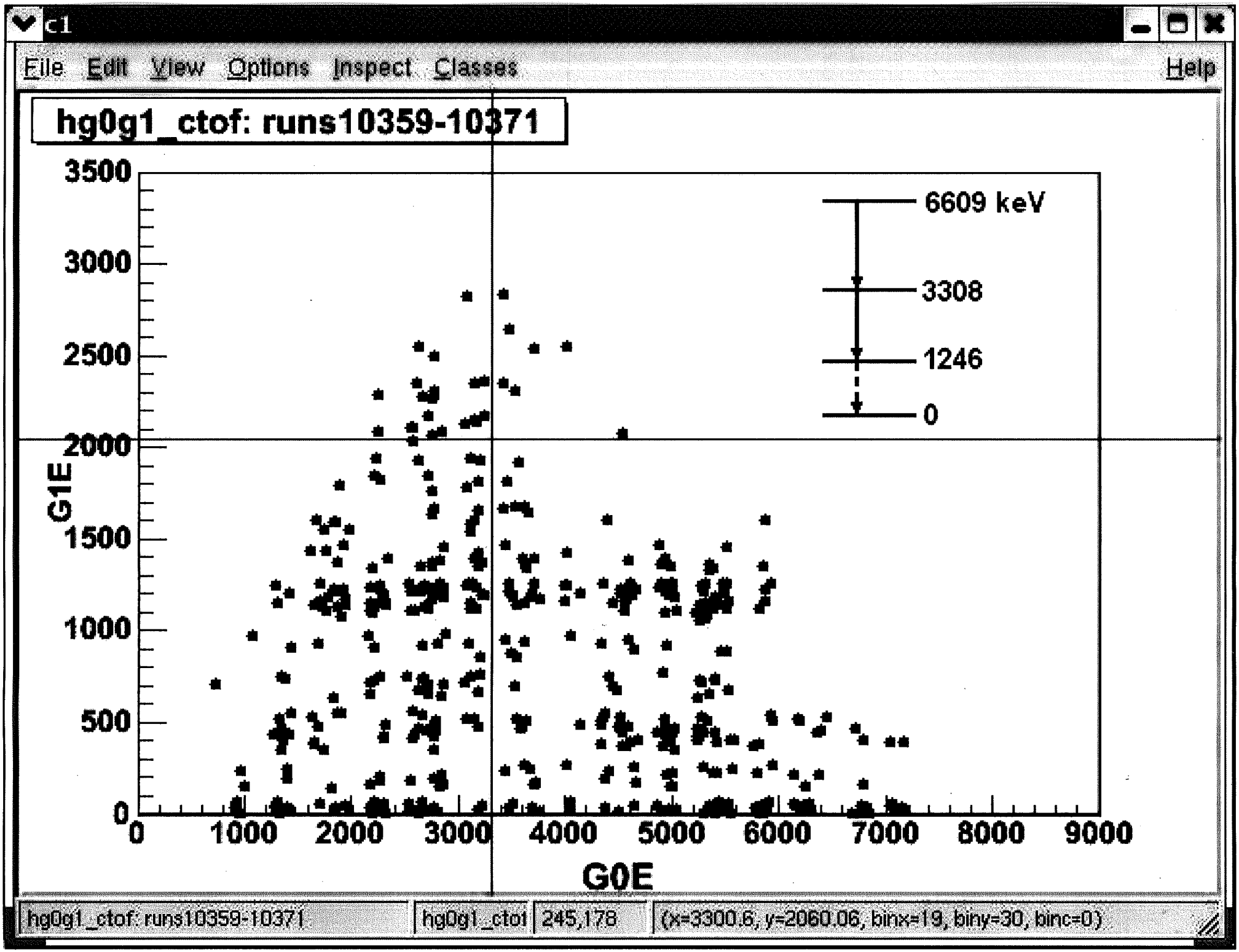
Runs 10358 and 10359 | c1 | 4,475 | x=0.00511509, y=0.0104167


Runs 10358 and 10359
File Edit View Options Inspect Classes Help
hg0g1_ctof run10358
hg0g1_ctof run10359
G1E
G0E
0 500 1000 1500 2000 2500 3000 3500
0 1000 2000 3000 4000 5000 6000 7000 8000
Runs 10358 and 10359
c1
443,423
x=0.563613, y=0.00235849


c1
File Edit View Options Inspect Classes Help
hg0g1_ctof: runs10359-10371
6609 keV
3308
1246
0
G1E
G0E
3500
3000
2500
2000
1500
1000
500
0
0 1000 2000 3000 4000 5000 6000 7000 8000 9000
hg0g1_ctof: runs10359-10371
hg0g1_ctof
245,256
(x=3300.6, y=1240.24, binx=19, biny=18, binc=0)


c1
File Edit View Options Inspect Classes Help
hg0g1_ctof: runs10359-10371
6609 keV
1246
0
G1E
G0E
3500
3000
2500
2000
1500
1000
500
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
hg0g1_ctof: runs10359-10371
hg0g1_ctof
360,256
(x=5365.38, y=1245.19, binx=30, biny=18, binc=3)


c1
File Edit View Options Inspect Classes Help
hg0g1_ctof: runs10359-10371
6609 keV
0
G1E
G0E
3500
3000
2500
2000
1500
1000
500
0
0 1000 2000 3000 4000 5000 6000 7000 8000 9000
hg0g1_ctof: runs10359-10371
hg0g1_ctof
428,372
(x=6601.2, y=21.021, binx=37, biny=1, binc=0)


c1
File Edit View Options Inspect Classes Help
hg0g1_ctof: runs10359-10371
6609 keV
3308
1246
0
G1E
G0E
3500
3000
2500
2000
1500
1000
500
0
0 1000 2000 3000 4000 5000 6000 7000 8000 9000
hg0g1_ctof: runs10359-10371
hg0g1_ctof
245,178
(x=3300.6, y=2060.06, binx=19, biny=30, binc=0)

$^{21}\mathrm{Na}(\mathrm{p},\gamma)^{22}$ Run Plan

-First run at $E_{b,in}$ = 1154 keV/u (the yield peak) to measure the charge state distribution of the recoils (q = 8+,9+ and possibly 7+ or 10+ and 11+, depending on which charge state is most popular).

+Run for one hour at each charge state to obtain a rough estimate for the charge state distribution and the count rates at each q.

++If P(10+)>P(9+), measure in the following order: 9+, 10+, 11+, 12+, 8+

++Otherwise measure in the following order: 9+, 10+, 11+, 8+, 7+

+Run for again for two to four hours at each charge state. We would like 200 to 300 singles counts of the most popular charge state.

+The charge state distribution measurements should take no more than 24 hours.

-After measuring the charge state distribution, I would like to start hunting for the left tail of the yield curve by running at 1114 keV/u.

+If the yield at 1114 keV/u is a significant fraction of the that at 1154 keV/u, then decrease the beam energy in 10 keV/u steps until the yield vanishes. After that point, increase the beam energy in 10 keV/u steps to map out the shape of the left flank.

+If the yield vanishes at 1114 keV/u, then inrease the energy in 10 keV/u increments to map our the shape of the left flank.

-If there is time, we would then measure the yield on the right flank by requesting $E_{b,in}$ = 1159 keV/u, and then stepping up the energy in 10 keV/u increments until we reach 1179 keV/u.

-I would like to perform two careful measurements (i.e. at two different energies) of P vs. MD1 NMR readback with five widely spaced (P, MD1) points per measurement. I would suggest the following pressures for the measurements: ~ 1, ~ 3, ~ 4, ~ 5 and ~ 6 torr.

-After measuring the dE/dx (keV/u/torr) of the beam in the target, use that value to calculate the input beam energies for the other runs. Please record the MD1 NMR readback value that centers the beam on the slits for each run. Record FC4 and P right before starting each run, and at the conclusion of each run.

Energies at which we ran in December 2003.

Eb_{in} (keV/u)
1132.05
1140.81
1149.27
1155.69
1164.92
1178.4
1178.4

Desired Run Parameters

P_{run}	$\approx$ 4.2 torr
FC4 (enA)	$>$ 100 epA
time per run	3 to 6 hours