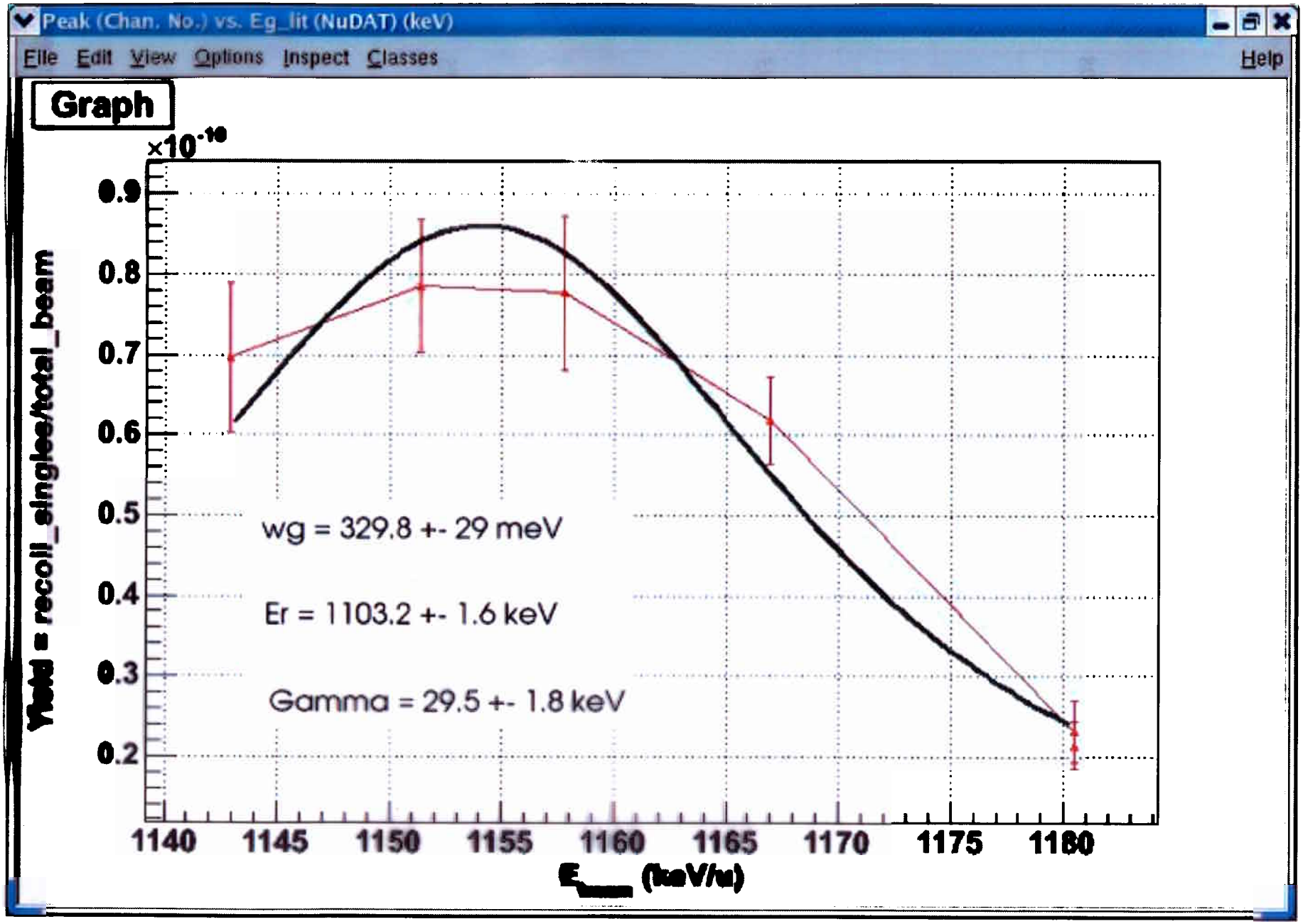
Peak (Chan. No.) vs. Eg_lit (NuDAT) (keV)
File Edit View Options Inspect Classes Help
Graph
×10⁻¹⁰
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
Yield = recoil_singles/total_beam
wg = 329.8 +- 29 meV
Er = 1103.2 +- 1.6 keV
Gamma = 29.5 +- 1.8 keV
1140
1145
1150
1155
1160
1165
1170
1175
1180
E_beam (keV/u)

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

E_b(keV/u) in the lab reference frame
1118.3 (the left edge of the 1079 keV res.?)
1125.7 (the left edge of the 1101 keV res?)
1132*
1137.5 (1079 keV resonance)
1142.4 (the right edge of the 1079 keV res.?)
1149*
1154 Measure the charge state distribution at this energy
1159
1163*
1168*
1173
*(Run at this energy if there is time)

Measure the left half of the yield curve first.
The width of the curve due to the 1079 keV/u resonance is based on $\Gamma = 9$keV and an energy loss in the target of 14 keV/u.
Run at $P = 4.2$ torr.
Request $FC4 = 0.7$ to 1 enA.
Recoil charge states to measure: 7, 8, 9, 10, and 11.
For the charge state distribution runs, run for 1 hour per run.
For the other runs, run until there are about 200 singles counts in the recoil peak or for 3.5 hours, whichever comes first.
For really low count rates, run for a maximum of 4 hours to collect about 65 counts.
Perform three linear fit measurements of the beam energy, and extrapolate to $P = 0$ torr. For the other runs, measure the beam energy after gas at $P =$run pressure, and record the MD1 NMR value and run pressure in the logbook.
Record FC4,FCCH and the target pressure right before starting each run.
Set the recoil tune to whatever the most popular charge state turns out to be (probably 9+).