CsI Matching Calibrations

(Refer to the documentation "calibration.doc" for detailed calibration procedures and instructions of Fitter program)

1. Load "2d_Si_MeV_CsI_MeV.tcl" and sort elastic scattering data.
2. Write them to .root file
3. Draw p,d,t gates from the root file (Figure 1)
4. Apply the gates (modify "LRootEvent.cfg") and run "CsIPid" unpacker (directory: /projects/proj4/hira/LS_program/UnpackPid/)
5. Sharp elastic scattering peaks are obtained (Figure 2)
6. Fit the peak with single Gaussian function, then extract the peak energies
7. Use Lise software to calculate the theoretical energies deposited in CsI crystals from Bp after taking the effect of target and other materials into account.
8. Compare the theoretical energy deposited and the energy loss obtained from calibrated elastic scattering data, then establish a linear relationship for each crystal by fitting one type of isotope (Figure 3)
9. The slope and intercept values are used to modify the calibrations obtained from normal data run and a complete calibration for CsI is achieved.

Figure 1

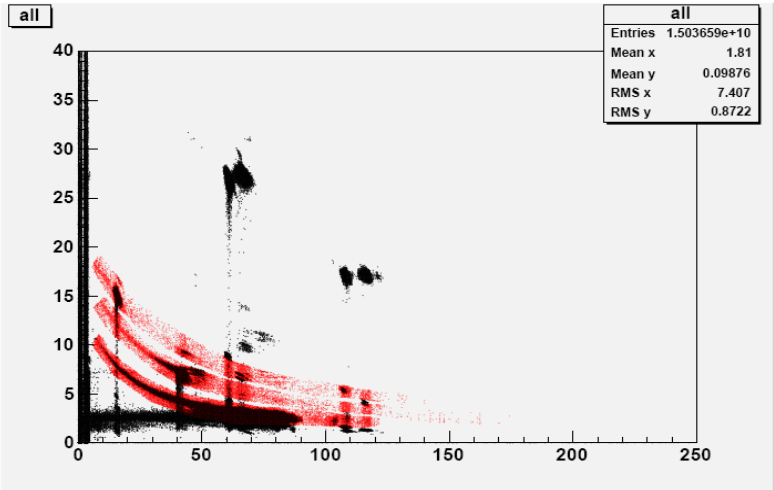

Figure 2

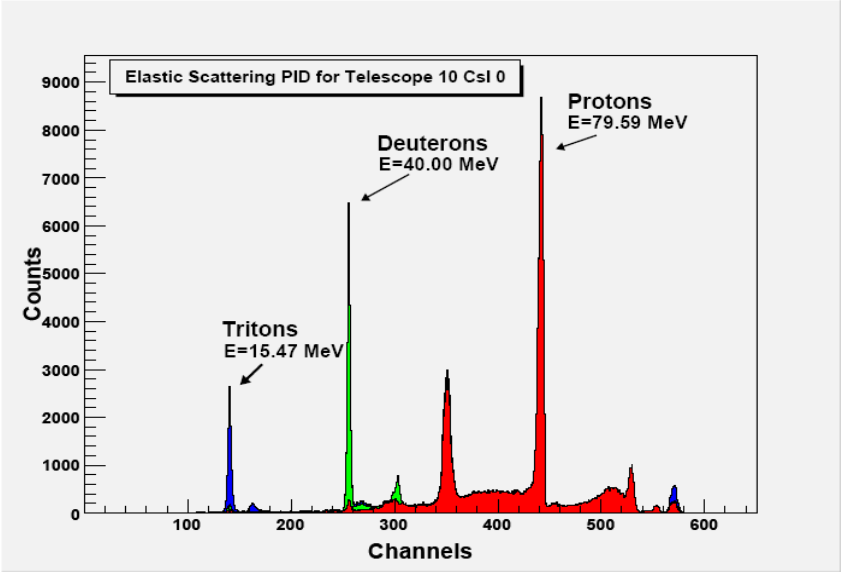

Figure 3