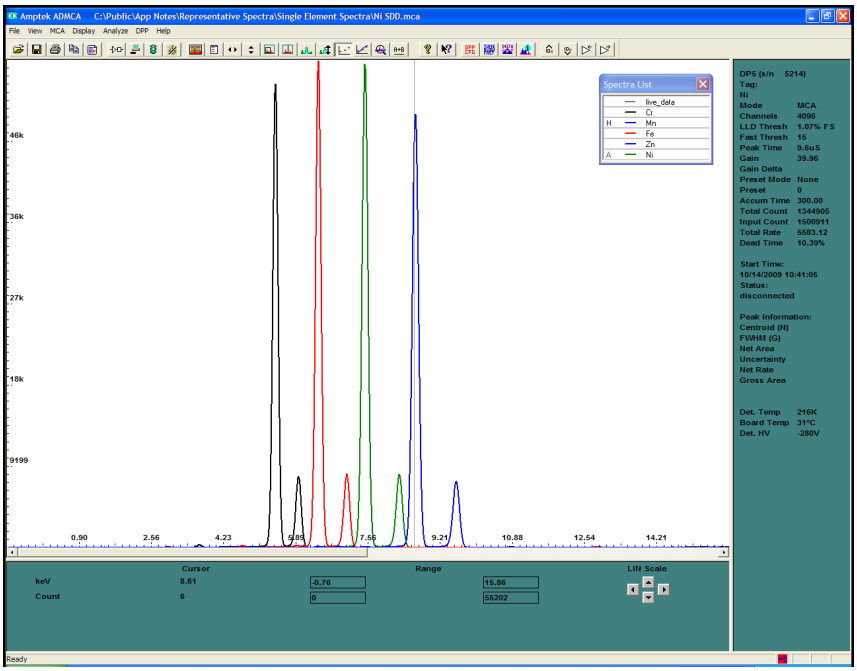
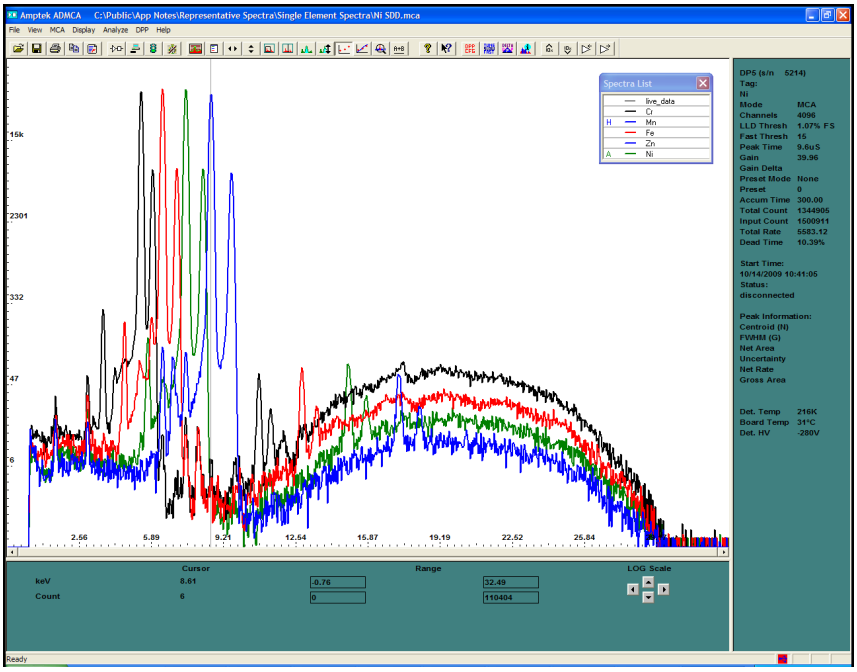
Typical Single Element Spectra – Low Z Metals

For all measurements shown here, the samples were nominally ≥99.5% pure. The detector was a 1st generation SDD, P/N GS13AMD-G3SP, with 7mm^2 active area, internal multilayer collimator, and a 1 mil Be window. The processor was an X123-SDD. The source was an Amptek Mini-X, Ag anode, operated at 30 kVp, with a 0,040" Al filter. The tube current was adjust to keep, ICR ~6 kcps for a 10% dead time. Each spectrum was measured for 5 minutes. The MP1 baseplate defined the geometry. The DP5 configuration was identical to that shown for the steel alloys.



Linear plot showing spectra for Cr, Fe, Ni, and Zn. The K_α and K_β peaks for each are clearly visible.



Log plot of the same spectra shown above. In addition to the photopeaks and the brehmstrahlung continuum from the tube, one can clearly see (a) pile-up peaks for each element,(b) escape peaks, and (c) an Ar photopeak from air.