

Gamma Spectroscopy is a technique for identifying materials based on their emission of high-energy photons. Through either beta or alpha decay, nucleons can reach excited states that are unique to the isotope they belong to. When these nucleons return to the ground state, they emit a gamma particle of equal energy. We used a multichannel analyzer in pulse height mode to find peaks in gamma emissions of various known substances, the centers of which we then fitted linearly against bin number to create a calibration curve in which bin number corresponds to gamma energy. An unknown substance was then measured and compared with this calibration curve; it was found to be a combination of ^{137}Cs and ^{65}Zn .