

Abstract Submitted  
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**Development of a Low-Level Counting Station** OMAR MAGANA,  
SPS — A low-level counting station was developed to determine the half-life of  $^{60}\text{Fe}$ . The iron source was selected among other products during the process of nuclear collision. Utilizing a K1900 fragment separator from the NSCL facility at MSU, the  $^{60}\text{Fe}$  was produced and implanted into Al Foils. The iron was later extracted by a chemical process and precipitated nucleus as at the Argon National Laboratory. Since, the  $^{60}\text{Co}$  serves as a contaminant; the Cobalt was removed in chemistry, to insure all measure  $^{60}\text{Co}$  is from the decay of  $^{60}\text{Fe}$ . In order to achieve successful results, a low-level counting station was developed to maximize the background suppression using lead bricks. The lead castle was engineered to reduce background radiation that interferes with the detector. By doing so, various calibrations and arrangement of lead bricks were done to add suppression into the counting station. Once the detector shielding was ready, a background run was made in order to compare the difference between the previous shielding that was built last year by other colleagues. In future experiments, the  $^{60}\text{Fe}$  sample will be inserted into the detector. The  $^{60}\text{Co}$  activity will be measure to determine the half-life of  $^{60}\text{Fe}$ .

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