^{57}Mn

In the 1954 paper titled "Manganese-57" (1954Co26), Cohen et al. published the discovery of the isotope ^{57}Mn. Isotopically enriched ^{57}Fe was bombarded with neutrons produced by the Oak Ridge 86 inch cyclotron and ^{56}Mn was created by the (n,p) charge exchange reaction. The γ-ray spectrum was examined with a NaI(T1) scintillation spectrometer, while the β-ray spectrum was analyzed with an anthracene scintillation spectrometer. The isotope "was identified by chemical separations, by measurement of its formation and cross section, by investigation of possible impurity effects, and by comparison of its gamma spectrum with that of ^{57}Co." The recorded half-life was 1.7(1) min. A previous attempt to observe ^{57}Mn was not successful (1950Ne02).

Adapted from reference (2012Ga06)

1950Ne02 M. E. Nelson and M. L. Pool, Phys. Rev. **77**, 682 (1950).

1954Co26 B. L. Cohen, R. A. Charpie, T. H. Handley, and E. L. Olson, Phys. Rev. **94**, 953 (1954).

2012Ga06 K. Garofali, R. Robinson, and M. Thoennessen, At. Data Nucl. Data Tables **98**, 356 (2012).

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