^{58}Mn

The discovery of ^{58}Mn by Chittenden et al. is outlined in the 1961 paper "New Isotope of Manganese; Cross Sections of the Iron Isotopes for 14.8-MeV Neutrons" (1961Ch04). At the University of Arkansas 400-kV Cockcroft-Walton accelerator, enriched iron was bombarded by 14.8 MeV neutrons and the γ-ray spectrum was analyzed by a NaI(T1) scintillation spectrometer. "On the basis of cross-bombardments utilizing chemical separations and gamma-ray spectrum (which fits the measured energy level of Fe^{58}) the activity is assigned to Mn^{58} from the Fe^{58}(n,p) and Fe^{57}(n,np) reactions." The isotope was assigned a half-life of 1.1(1) min, which corresponds to an isomer of ^{58}Mn. The 3.0 s ground-state was discovered eight years later by Ward et al. (1969Wa10).

Adapted from reference (2012Ga06)

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