^{60}Mn

Norman et al. presented their 1978 discovery of ^{60}Mn in the paper "Mass and β-decay of the new neutron-rich isotope ^{60}Mn" (1978No03). An enriched ^{48}Ca foil was bombarded with ^{18}O ions at an energy of 56 MeV at the Argonne tandem accelerator. ^{60}Mn was produced in the fusion-evaporation reaction ^{48}Ca(^{16}O, αpn). Gamma-rays were analyzed with Ge(Li) detectors, and β-rays were examined using plastic scintillators. "Gamma rays have been attributed to the decay of ^{60}Mn by comparison of their energies with those of previously reported levels of ^{60}Fe and by their coincidence relations with known gamma rays of ^{60}Fe. From these measurements, the half life, ground-state spin, parity, and decay scheme of ^{60}Mn were determined." The half-life was measured to be 1.79(1) s, which corresponds to an isomer and the internal transition of 272 keV populating the ground state was observed seven years later by Runte et al. (1985Ru05). Norman et al. had also observed this γ-ray but did not assign it to the decay of ^{60}Mn. The 0.28 s ground state was reported in 2006 by Liddick et al. (2006Li15) correcting an earlier reported value of 51 s (1988Bo06).

Adapted from reference (2012Ga06)

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