Ni(^{58}Ni,X) 2007Do17

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Wang Jimin and Huang Xiaolong	NDS 144, 1 (2017)	1-Mar-2016

2007Do17: Fragmentation reaction used to produce ^{51}Co isotope at SISSE/LISE3 facility in GANIL. Primary beam: $^{58}Ni^{26+}$ at 74.5 MeV/nucleon; target=natural Ni. Fragment separator=ALPHA−LISE3. Fragment identification by energy loss, residual energy and time-of-flight measurements using two micro-channel plate (MCP) detectors and Si detectors. Double-sided silicon-strip detectors (DSSSD) and a thick Si(Li) detector were used to detect implanted events, charged particles and β particles. The γ rays were detected by four Ge detectors. Coincidences measured between charged particles and γ rays.

2002Pf03: Be(^{58}Ni,x), E=450MeV/nucleon.

1987Po04: Ni(^{58}Ni,x),E=55 MeV/nucleon; measured residual nuclei mass spectra. Magnetic separation, tof, ΔE-E methods.

^{51}Co Levels

E(level)	J^π	$T_{1/2}$	Comments
0	$7/2^-$	68.8 ms *19*	%εp<3.8 (2007Do17) $T_{1/2}$: By time correlation of implantation events due to ^{51}Co and subsequent emission of protons and γ rays (2007Do17). Other: >200 ns (TOF, 1987Po04). %εp: No delayed protons were detected. The total proton branching ratio is from time spectrum of events with energy >900 keV in the charged-particle spectrum. Thus ^{51}Co decays mostly by $\beta^+ + \varepsilon$ decay to ^{51}Fe (2007Do17). J^π: From Adopted Levels.