

^{55}Zn ϵp decay:19.8 ms 2007Do17

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Yang Dong, Huo Junde		NDS 121, 1 (2014)	20-Jun-2014

Parent: ^{55}Zn : $E=0.0$; $J^\pi=5/2^-$; $T_{1/2}=19.8$ ms 13; $Q(\epsilon\text{p})=17010$ SY; $\% \epsilon\text{p}$ decay=91 5

^{55}Zn -Dqp: SY=700 (syst, 2012WA38).

^{55}Zn - $T_{1/2}$: from 2007Do17. $T_{1/2}$ measured by time correlation of implantation events due to ^{55}Zn and subsequent emission of protons and γ rays.

^{55}Zn - $\% \epsilon\text{p}$ decay: $\% \epsilon\text{p}=91.0$ 51 (2007Do17). Total proton branching ratio is from time spectrum of events with energy >900 keV in the charged-particle spectrum. Possible small contributions from delayed- α and delayed-2p decays are ignored.

Fragmentation reaction used to produce ^{55}Zn isotope at SISSE/LISE3 facility in GANIL. Primary beam: $^{58}\text{Ni}^{26+}$ 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.

A proton group at 4689 keV 38 was observed, possibly from IAS in ^{55}Cu at ≈ 7300 to the second excited state in ^{54}Ni at about 2500-2600 keV as compared to corresponding mirror state in ^{54}Fe .

 ^{54}Ni Levels

E(level)	J^π
0.0	0^+