^{24}O β^-n decay 1990Mu06,2015Ca09,1999Re16

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia[#], A. Chakraborty[##]	NDS 171, 1 (2021)	1-Jun-2020

Parent: ^{24}O: E=0.0; $J^\pi=0^+$; $T_{1/2}$=72 ms *5*; Q(β^-n)=7.14×10^3 *17*; %β^-n decay=41 *6*

^{24}O-$T_{1/2}$: From 2015Bi05 (Weighted average of 61 ms *+32−19* (1990Mu06), 65 ms *5* (1999Re16), and 80 ms *5* (2015Ca09)).

^{24}O-%β^-n decay: From 2015Bi05 (Weighted average of 58 *12* (1990Mu06) and 39 *4* (corrected value from 43 *4* in 2015Ca09).

Other reference: 2001Pe14.

1990Mu06: Projectile fragmentation reaction of ^{48}Ca beam at 44 MeV/nucleon on Be-target was used at GANIL. Fragment identification was carried out using LISE spectrometer. At the exit from LISE, fragments were implanted into semiconductor telescope. The beta-delayed neutrons were detected by means of a neutron detector surrounding the semi-conductor telescope. These neutrons were detected in coincidence with the β-ray detected in a Si(Li) detector. Measured ^{24}O half-life, %β^-n.

2015Ca09: ^{24}O was produced via fragmentation of 77.6 MeV/nucleon ^{36}S primary beam on a ^{9}Be target of thickness=237 mg/cm^2, and separated by LISE achromatic spectrometer at GANIL. Isotope identification was performed by energy loss in two silicon detectors (ΔE) of thickness 500 μm and time-of-flight. ^{24}O isotopes implanted in double-sided-silicon-strip-detector (DSSSD). A Si(Li) detector was placed after DSSSD to control implantation depth. Four segmented Ge clover detectors of EXOGAM array placed around DSSSD detector. Measured Eγ, Iγ, $\gamma\gamma$ and $\beta\gamma$ coincidences. Measured ^{24}O half-life and %β-n branch.

1999Re16,2001Pe14: Projectile fragmentation reactions of Ta(^{36}S,X), E(^{36}S)=2.8 GeV; Magnetic Spectrometer (LISE3); nuclides were identified by TOF and energy loss in Si; 6 Si and 4 HPGe and 42 ^{3}He proportional counters; Measured: ^{24}O half-life, %β^-n.