^{256}No α decay 1990Ho03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	A. M. Mattera, S. Zhu, A. B. Hayes, E. A. Mccutchan	NDS 172, 543 (2021)	1-Jan-2021

Parent: ^{256}No: E=0.0; $T_{1/2}$=2.91 s *5*; Q(α)=8582 *5*; %α decay=99.47 *6*

^{256}No-$T_{1/2}$: 2.91 s *5*, measured by 1990Ho03, is adopted. Others: 3.3 s *2* (1967Gh01), 3.7 s *5* (1968Fl05), 6 s *2* (1967Dr02), 8.2 s *10* (1966Ku15), ≈8 s (1964Do10).

^{256}No-%α decay: %α(^{256}No)=99.47 *6* is obtained from SF/α=0.0053 *+6−3*, measured by 1990Ho03. Possible ε branch from ^{256}No (g.s.) to ^{256}Md (g.s.) can be estimated as I(ε)≤ 0.001% by requiring log *ft* ≥ 5.8.

1990Ho03: ^{256}No produced by ^{248}Cm(^{12}C,4n) at 70≤E_{lab}≤72 MeV. Eα, Iα, α(t) time spectrum of reaction products measured in planar Si detectors following thermalization and implantation in a rotating wheel via He-jet transport.

2015As05: Brief summary of M. Asai, JAEA-Review 2016-025, p9. ^{256}No produced in ^{248}Cm(^{12}C,4n) with E=77 MeV. Measured Eα, Iα using rotating-wheel α detection system consisting of 2 Si detectors.

^{252}Fm Levels

E(level)	J$^\pi$	Comments
0.0[†]	0$^+$	
42.1[†] *13*	2$^+$	E(level): from Eα(to 0$^+$)-Eα(to 2$^+$)=41.5 *13*, α energy difference measured by M. Asai, JAEA-Review 2016-025, p9, uncertainty also reported in 2015As05. Other: 47 *5* from Eα(to 0$^+$)-Eα(to 2$^+$)= 46 *5* (1990Ho03). 1990Ho03 report α energy difference of 45.9 *12*, but then state the 1 σ error is 5 keV due to interfering activities near the low intensity alpha.

[†] Band(A): K=0$^+$ g.s. band.

α radiations

Eα[†]	E(level)	Iα[‡@]	HF[#]	Comments
8402 *8*	42.1	13 *2*	4.8 *8*	Eα: other: 8405 (M. Asai, JAEA-Review 2016-025, p9).
8448 *6*	0.0	87 *2*	1.0	Eα: other: 8446 (M. Asai, JAEA-Review 2016-025, p9).

[†] From 1990Ho03. Other measurements: 1967Fl05, 1967Gh01, 1968Fl05, 1977Be36.
[‡] Intensity per 100 α decays, measured by 1990Ho03.
[#] r_0(^{252}Fm)=1.4765 *19* is calculated from HF(8448α)=1.0.
[@] For absolute intensity per 100 decays, multiply by 0.9947 *6*.

^{256}No α decay 1990Ho03

Band(A): K=0$^+$ g.s. band

2$^+$ 42.1

0$^+$ 0.0

$^{252}_{100}Fm_{152}$