^{146}Sm α decay

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	T. D. Johnson, D. Symochko(a), M. Fadil(b), and J. K. Tuli	NDS 112, 1949 (2011)	1-Jun-2010

Parent: ^{146}Sm: E=0.0; $J^\pi=0^+$; $T_{1/2}=10.3\times10^7$ y *5*; Q(α)=2528 *3*; %α decay=100.0

Evaluation from 1998Ak04.

$T_{1/2}(^{146}Sm)=10.3\times10^7$ y *5*, adopted half-life of 1990Pe06, is used in calculations here. A recalibrated value is the weighted average of the following measured half-lives: 10.26×10^7 y *48* (1966Fr11), 10.31×10^7 y *45* (1987Me08). Other measured half-lives: 5×10^7 y (1953Du21), 8.5×10^7 y *12* (1963Fr06), 7.4×10^7 y *15* (1964Nu02).

%α=100. ^{146}Sm is β stable.

Q(α)(^{146}Sm)=2528 *3* is the recommended value of 2011AuZZ.

^{142}Nd Levels

E(level)	J^π
0.0	0^+

α radiations

Eα	E(level)	Iα[†][#]	HF[‡]	Comments
2460 *3*	0.0	100	1.0	Eα=2455 *4* was measured by 1987Me08 and recommended by 1991Ry01; Q(α)=2528 *3* of 2011AuZZ yields Eα=2493 *3*. Iα: the first 2^+ in ^{142}Nd is at 1575.83 keV. With the available Q(α)(^{146}Sm)=2528 *3*, a 926-keV α to the 2^+ state is not expected.

† α intensity per 100 α decays.

‡ $r_0(^{142}Nd)=1.569$ *8* is computed from Hf(2460α)=1.0.

Absolute intensity per 100 decays.