^{226}U α decay

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Sukhjeet Singh, A. K. Jain, Jagdish K. Tuli	NDS 112,2851 (2011)	31-Mar-2011

Parent: ^{226}U: E=0.0; $J^\pi=0^+$; $T_{1/2}$=0.35 s *15*; Q(α)=7715 *14*; %α decay=100.0

$T_{1/2}(^{226}U)$=0.20 s *5* was measured by 1990An22,0.5 s *2* by 1973Vi10, 0.281 s *9* by 2000He17, 0.260 s *20* by 2001Ku07, 0.260 s *10* by 1999Gr28.

See 2009Ni06, 2009Ro06, 2008Sa40, 2007Pe30, for calculations of alpha decay half-lives.

$\%\alpha(^{226}U)$=100 is adopted in 1996Ak02. From the gross β^- decay calculations of 1973Ta30, the ε decay branch is estimated to be $\%\varepsilon$<0.05.

Additional information 1.

1997Mo25 calculated the partial half-life of ^{226}U β^+ decay as >100 s.

Q(α)(^{226}U)=7701 *4* is recommended by 2003Au03, 2011AUZZ.

^{222}Th Levels

E(level)	J^π
0.0[†]	0^+
183.3[†]	2^+

[†] Band(A): $K=0^+$ g.s. band.

α radiations

Eα[†]	E(level)	Iα[†#]	HF[‡]
7387 *7*	183.3	15 *5*	1.4 *8*
7566 *4*	0.0	85 *11*	1.0

[†] Measurement by 2001Ku07. Others: 1999Gr28, 2000He17.

[‡] $r_0(^{222}Th)$=1.628 *23* is used in calculations. The calculated radius parameters by using various half-lives are r_0=1.506 *23* for $T_{1/2}$=0.5 s *2*, r_0=1.548 *20* for $T_{1/2}$=0.20 s *5*, and r_0=1.543 *22* for $T_{1/2}$=0.22 *8* (the weighted average of 0.5 s *2* and 0.20 s *2*).

[#] Absolute intensity per 100 decays.

^{226}U α decay

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

2$^+$ 183.3

0$^+$ 0.0

$^{222}_{90}Th_{132}$