^{215}Fr α decay (86 ns) 1974No02,1970Bo13

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	B. Singh, S. Singh, H. X. Nguyen and M. Patial	NDS 114, 661 (2013)	28-Feb-2013

Parent: ^{215}Fr: E=0.0; $J^{\pi}=9/2^{-}$; $T_{1/2}$=86 ns *5*; Q(α)=9540 *7*; %α decay=100.0

^{215}Fr-$T_{1/2}$: Slope of α-decay time spectrum fitted to two components: 86 and 30 ns (1984De16). Other values: 87 ns *6* (1973HaZO); 104 ns *16*, slope of time spectrum measurement (1984Sc25); 0.12 μs *2*, measured for about 90 ns only (1974No02). Weighted average of all the four measurements is 88.5 ms *41* with reduced χ^2=1.2, however, the evaluators prefer to adopt value from 1984De16 due to better fitting, statistics and time range (spanning about 8 half-lives) of the decay curve.

^{215}Fr-$T_{1/2}$: Additional information 1.

^{215}Fr-Q(α): From 2012Wa38.

^{215}Fr-%α decay: %α=100. From calculated β-decay half-life of >100 s, and α-decay half-life=5.0×10^{-6} s (1997Mo25), predicted %ε+%β^+=5.0×10^{-6}.

^{211}At Levels

E(level)	J^{π}
0.0	$9/2^{-}$

α radiations

Eα	E(level)	Iα[‡]	HF[†]	Comments
9360 *10*	0.0	100	0.95 *6*	Eα: weighted average of measured values of 9355 *10* (1974No02), 9.37 MeV *2* (1973HaZO), 9364 *15* (1970Bo13). Other value: 9365 (1982GoZU). Iα: only g.s. to g.s. α branch has been seen.

[†] $r_0(^{211}At)$=1.5365 *55*; interpolated value deduced from $r_0(^{210}Po)$=1.532 *6*, $r_0(^{212}Rn)$=1.541 *5* (1998Ak04).

[‡] Absolute intensity per 100 decays.