^{217}Ac α decay (740 ns)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 181, 475 (2022)	1-Jan-2022

Parent: ^{217}Ac: E=2012.2 *7*; J^π=(29/2)$^+$; $T_{1/2}$=740 ns *40*; Q(α)=9832 *10*; %α decay=4.51 *18*
^{217}Ac-E,J^π,$T_{1/2}$: From 2018Ko01 (A=217 evaluation).
^{217}Ac-Q(α): From 2021Wa16.
^{217}Ac-%α decay: From 2018Ko01 (A=217 evaluation).

^{213}Fr Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0	9/2$^-$	34.17 s *6*	J^π,$T_{1/2}$: From Adopted Levels.
498	(7/2$^-$)		J^π: From dominant I_α=11 with respect to I_α(10540)=100.
1105	(13/2)$^+$		J^π: 1105γ M2 to 9/2$^-$ g.s. and I_α(10540)=90 *6*.

α radiations

$\alpha(\theta)$: 1985De14, 1973No09.
$(\alpha)(\gamma)$: 1985De14.

Eα	E(level)	Iα[#&]	HF[@]	Comments
10540[†]	1105	90 *6*	1.67×10^4 *16*	
11137[‡] *15*	498	7.1 *21*	2.50×10^6 *76*	
11625[‡] *17*	0.0	2.7 *5*	4.21×10^7 *84*	Eα: Other: 11570 keV (1982SaZO).

[†] Measurement of 1973No09.
[‡] Measurement of 1985De14. Eα=9.650 MeV and Eα=10.54 MeV lines were used as calibration energies.
[#] From 1985De14.
[@] Using r_0(^{213}Fr)=1.5460 *27*, unweighted average of r_0(^{212}Rn)=1.5433 *36* and r_0(^{214}Ra)=1.5487 *30* (2020Si16).
[&] For absolute intensity per 100 decays, multiply by 0.0451 *18*.

γ(^{213}Fr)

E$_\gamma$	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.	α[†]	Comments
498	498	(7/2$^-$)	0.0	9/2$^-$			
1105	1105	(13/2)$^+$	0.0	9/2$^-$	M2	0.0479	α(K)=0.0380 *6*; α(L)=0.00747 *11*; α(M)=0.00180 *3* α(N)=0.000473 *7*; α(O)=0.0001056 *15*; α(P)=1.688×10^{-5} *24*; α(Q)=9.26×10^{-7} *13* α(IPF)=5.71×10^{-8} *8* Mult.: from ce (1985De14 – quoted from their Ref. 8).

[†] Additional information 1.

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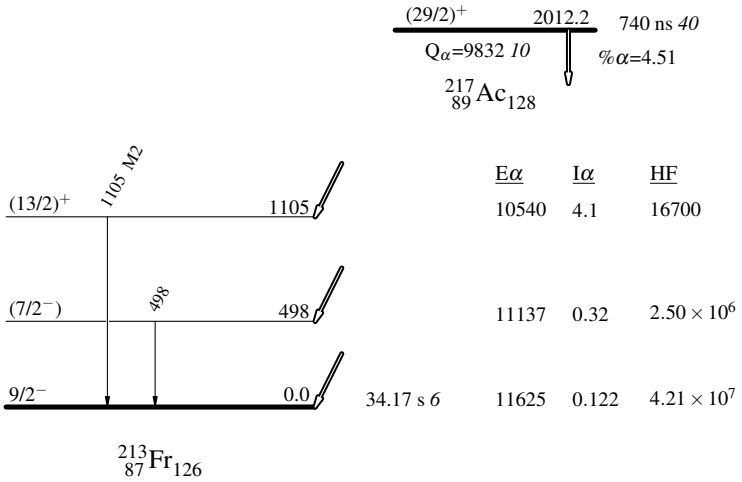
Decay Scheme



Eα	Iα	HF
10540	4.1	16700
11137	0.32	2.50×10^6
11625	0.122	4.21×10^7