

^{204}Fr α decay (1.65 s) 2013Ja06,1992Hu04,2005Uu02

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 192,1 (2023)	1-Aug-2023

Parent: ^{204}Fr : $E=326.4$; $J^\pi=(10^-)$; $T_{1/2}=1.65$ s 15; $Q(\alpha)=7170.3$ 24; $\% \alpha$ decay=53 10

^{204}Fr -E: From 2021Ko07.

^{204}Fr - $T_{1/2}$: From 2013Ja06. Others: 0.8 s 2 (2005Uu02) and ≈ 1 s (1992Hu04).

^{204}Fr - $\% \alpha(^{204}\text{Fr})$ from 2014Ly01.

 ^{200}At Levels

E(level) [†]	J^π [†]	$T_{1/2}$ [†]
0	(3 ⁺)	43.1 s 8
112.9 29	(7 ⁺)	47 s 1
343.8 29	(10 ⁻)	6.3 s 5

[†] From Adopted Levels.

 α radiations

E_α [‡]	E(level)	I_α ^{‡#}	HF [†]	Comments
7013 5	343.8	100	2.9 7	E_α : Others: 7013 keV 5 (2013Ja06) and 7017 keV 6 (2005Uu02), correlated with $E_\alpha=6543$ keV 6 depopulating the $J^\pi=(10^-)$ state in the daughter nucleus ^{200}At .

[†] Using $r_0(^{200}\text{At})=1.517$ 6 unweighted average of 1.525 14 (^{200}Rn), 1.5287 42 (^{202}Rn), 1.5106 49 (^{198}Po) and 1.5026 13 (^{200}Po) from 2020Si16.

[‡] From 1992Hu04.

[#] For absolute intensity per 100 decays, multiply by 0.53 10.

 $\gamma(^{200}\text{At})$

E_γ [†]	E_i (level)	J_i^π	E_f	J_f^π	Mult.	Comments
230.9 2	343.8	(10 ⁻)	112.9	(7 ⁺)	E3	Mult.: From $\alpha(\text{K})\text{exp}=0.29$ 8, $\alpha(\text{L})\text{exp}=1.1$ 2 and $\alpha(\text{M})\text{exp}=0.27$ 6 in 1992Hu04.

[†] From 1992Hu04.

^{204}Fr α decay (1.65 s) 2013Ja06,1992Hu04,2005Uu02Decay Scheme