Adopted Levels, Gammas

	Type	Author	History Citation	Literature Cutoff Date
	Full Evaluation	M. J. Martin	NDS 108,1583 (2007)	1-Jun-2007

Q(β^-)=−4381 *20*; S(n)=7893 *21*; S(p)=1320 *15*; Q(α)=6785 *24*   2012Wa38

Note: Current evaluation has used the following Q record −4379   49 *7895* 67 *1323* 53 *6772*   3   2003Au03.

Q(α): from adopted Eα=6641 *3* (see 1994Sc24) and the assumption that this α group feeds the 7$^+$ ground state in ^{204}At. 2003Au03 give 6785 *44*.

No SF isomers with 2 ns≤T$_{1/2}$≤2000 s (σ>0.07 μb) observed from search for fission fragments following bombardment of ^{197}Au with 85$^-$ to 165-MeV ^{16}O (1970Bj02).

^{208}Fr Levels

Cross Reference (XREF) Flags

A	^{212}Ac α decay
B	^{9}Be(^{238}U,X)

E(level)	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0	7$^+$	59.1 s *3*	AB	%α=89 *3*; %ε+%β^+=11 *3*
				μ=4.75 *10* (1985Co24,1986Ek02,2005St24)
				Q=0.00 *4* (1985Co24,2005St24)
				J$^\pi$: atomic beam (1978Ek02,1978Ek05). π from favored α decay to ^{204}At g.s.
				T$_{1/2}$: from 1981Ri04. Others: 1974Ho27 (58.0 s *3*), 1967Va20 (59.0 s *20*).
				%α: weighted average of 0.90 *4* from 1981Ri02 based on absolute Iα and Iγ(635γ) and the assumption that the 635γ is the only transition feeding the ^{208}Rn ground state, and 0.88 *4* from 1974Ho27 based on Iα/Iα(^{208}Rn) with Iα(^{208}Rn)=62% *7*. Note that 1974Ho27 quote %α=74 *3* based on Iα(^{208}Rn)=52% *5*.
				Isotope shift: Δ<r^2>=−0.20804 *12* relative to ^{212}Fr (1987Co19). This replaces the earlier result by the same authors (1985Co24).
633	(9$^+$)		B	J$^\pi$: proposed by 2006PoZX in analogy with ^{206}At.
827	(10$^-$)	≈200 ns	B	J$^\pi$: proposed by 2006PoZX in analogy with ^{206}At.

γ(^{208}Fr)

E$_i$(level)	J$^\pi_i$	E$_\gamma$	E$_f$	J$^\pi_f$	Mult.
633	(9$^+$)	633	0.0	7$^+$	
827	(10$^-$)	194	633	(9$^+$)	[E1]

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Level Scheme

$^{208}_{87}Fr_{121}$