

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Huang Xiaolong, Zhou Chunmei		NDS 104,283 (2005)	1-Jan-2002

Q(β^-)= -7.82×10^3 7; S(n)= 1.050×10^4 6; S(p)= 1.5×10^2 6; Q(α)= 7.10×10^3 5 [2012Wa38](#)

Note: Current evaluation has used the following Q record -7820 79 $1.049E48$ 159 53 7104 50 [2003Au03](#).

Identification: ¹⁸⁵Re(²⁰Ne,8n) E=100-200 MeV ([1967Tr06](#)) excit; populated by E α =7388 15 ([1980Ew03](#)) via 48-ms ²⁰¹Fr decay.

¹⁹⁷At Levels

Cross Reference (XREF) Flags

- A ²⁰¹Fr α decay
- B ¹⁶⁵Ho(³⁶Ar,4n γ)

E(level)	J $^\pi$	T _{1/2} [†]	XREF	Comments
0.0	(9/2 ⁻)	0.388 s 6	AB	$\% \alpha = 96.1$ 12; $\% \epsilon + \% \beta^+ = 3.9$ 12 (1999Sm07) Other: $\% \alpha = 96$ 4, $\% \epsilon + \% \beta^+ = 4$ 4 (1980Sc26 , 1973Ta30), ≤ 100 (1986Co12 , 1985HuZY). Compared to 90 5 for ¹⁹⁹ At, 71 7 for ²⁰¹ At, 69 for ²⁰³ At, 10 for ²⁰⁵ At, 8.7 for ²⁰⁷ At. T _{1/2} : From RDT measurements (1999Sm07). other: 0.35 s 4 (1986Co12), 0.4 s 1 (1967Tr06). J $^\pi$: from syst; HF=0.95 11 to (9/2 ⁻) of ¹⁹³ Bi (1986Co12 , 1967Tr06). $\% \alpha \leq 100$ (1986Co12 , 1985HuZY); $\% IT \leq 0.004$; $\% \epsilon + \% \beta^+ = ?$ E(level): from 1986Co12 and 1985HuZY . J $^\pi$: from HF(6707 α)=1.2 8 to (1/2 ⁺) of ¹⁹³ Bi (1986Co12 , 1985HuZY). T _{1/2} : from RDT measurements (1999Sm07). other: 3.7 s 25 (1986Co12 , 1985HuZY). $\% IT < 0.004$ from RUL. $\% \epsilon + \% \beta^+$: From gross β -decay theory of 1973Ta30 one gets $\% \epsilon + \% \beta^+ \approx 37$.
52 10	(1/2 ⁺)	2.0 s 2		
311.0 10	(13/2 ⁺)		B	
324.0 10	(13/2 ⁻)		B	

[†] From [1986Co12](#) and [1985HuZY](#).

γ (¹⁹⁷At)

E _i (level)	J $^\pi_i$	E $_\gamma$	I $_\gamma$	E $_f$	J $^\pi_f$
311.0	(13/2 ⁺)	311	100	0.0	(9/2 ⁻)
324.0	(13/2 ⁻)	324	100	0.0	(9/2 ⁻)

Adopted Levels, GammasLevel Scheme

Intensities: Relative photon branching from each level

