^{184}Re IT decay (169 d)

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 111,275 (2010)	1-Oct-2009

Parent: ^{184}Re: E=188.0463 *17*; $J^{\pi}=8^{(+)}$; $T_{1/2}$=169 d *8*; %IT decay=74.5 *8*

^{184}Re-%IT decay: Decay scheme normalized assuming Ti(105)+Ti(188)+(I(γ+ce) to 1284 level (^{184}W))=100.

^{184}Re Levels

E(level)†	J^{π}‡	$T_{1/2}$	Comments
0.0	$3^{(-)}$		
104.7395 *14*	$4^{(-)}$		
188.0463 *17*	$8^{(+)}$	169 d *8*	$T_{1/2}$: from Adopted Levels.

† From least-squares fit to Eγ.

‡ From Adopted Levels.

^{184}Re IT decay (169 d) (continued)

$\gamma(^{184}Re)$

Iγ normalization: decay scheme normalized assuming Ti(105)+Ti(188)+(I(γ+ce) to 1284 level (^{184}W))=100.

E_γ	I_γ †	E_i(level)	J_i^π	E_f	J_f^π	Mult.	δ	α‡	$I_{(\gamma+ce)}$ †	Comments
83.3067 *8*	0.0140 *4*	188.0463	$8^{(+)}$	104.7395	$4^{(-)}$	M4		1.346×10^4	189 *5*	ce(K)/(γ+ce)=0.0189 *4*; ce(L)/(γ+ce)=0.686 *8*; ce(M)/(γ+ce)=0.229 *4*; ce(N+)/(γ+ce)=0.0659 *13* ce(N)/(γ+ce)=0.0575 *11*; ce(O)/(γ+ce)=0.00825 *17*; ce(P)/(γ+ce)=0.000157 *4* E_γ: from 1988BuZD. other Eγ: 83.28 *4* (1973Ag07). Mult.: from L-subshell ratios: L1:L2:L3=0.275 *19*:0.053 *10*:1.000 (1974Mc08); L1/L2=4.3 *10*, L1/L3=0.24 *3*, L2/L3=0.06 *1* (1973Ag07); L1/L2=5.5 *3*, L2/L3=0.044 *4* (1974Ga35); (L1+L2)/L3=0.295 *13* (1973Ca08). L1:L2:L3:M:N=7.2:2.4:20.0:>9.0:3.0 (1968Ag01). $I_{(\gamma+ce)}$: from Ti(83γ)=Ti(105γ) based on the decay scheme. I_γ: from I(γ+ce) and α.
104.7395 *14*	34.4 *10*	104.7395	$4^{(-)}$	0.0	$3^{(-)}$	M1+E2	+0.220 *4*	4.48		α(K)=3.61 *5*; α(L)=0.668 *10*; α(M)=0.1550 *23*; α(N+..)=0.0440 *7* α(N)=0.0375 *6*; α(O)=0.00615 *9*; α(P)=0.000394 *6* %Iγ=13.6 *3* assuming recommended normalization. E_γ: from 1988BuZD. other Eγ: 104.729 *7* (1973Ag07). I_γ: from 1974Mc08. Mult.: L1/L3=14.7 *+27–20*, α(K)exp=4.1 *8* (1973Ag07); K:L1:L3:M:N=24.0:3.2:0.29:1.8:0.28 (1968Ag01). δ: from γ(θ,H,T) (1973Hu06). Others: +0.226 *14* (1973Kr01), 0.190 *17* (1973Ag07).
188.0462 *17*	0.00053	188.0463	$8^{(+)}$	0.0	$3^{(-)}$	(E5)		246	0.13	ce(K)/(γ+ce)=0.0222 *5*; ce(L)/(γ+ce)=0.699 *8*; ce(M)/(γ+ce)=0.215 *4*; ce(N+)/(γ+ce)=0.0596 *12* ce(N)/(γ+ce)=0.0524 *10*; ce(O)/(γ+ce)=0.00714 *14*; ce(P)/(γ+ce)=2.64×10^{-5} *6* E_γ: from level energy difference. $I_{(\gamma+ce)}$: from Ti(188γ)/Ti(83γ)=0.00069 (1974Ga35); uncertainty not stated by authors. I_γ: from I(γ+ce) and α.

$^{184}_{75}Re_{109}$-2

^{184}Re IT decay (169 d) (continued)

$\gamma(^{184}Re)$ (continued)

E_γ	E_i(level)	Comments
		Mult.: from L1/L2<0.2 and L2/L3=1.8 *8* (1974Ga35), mult=E3,E4 or E5. From decay scheme, mult=E5.

† For absolute intensity per 100 decays, multiply by 0.395 *4*.

‡ Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

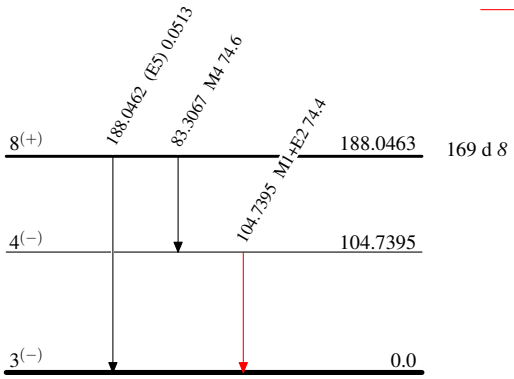
$^{184}_{75}Re_{109}$-3

^{184}Re IT decay (169 d)

Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays

%IT=74.5 *8*



$^{184}_{75}Re_{109}$

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$