^{185}W β^- decay 1972Ca27

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	S. -c. Wu	NDS 106, 619 (2005)	1-Nov-2005

Parent: ^{185}W: E=0.0; $J^\pi=3/2^-$; $T_{1/2}$=75.1 d *3*; Q(β^-)=432.5 *9*; %β^- decay=100.0

Additional information 1.

For measurements of K-shell auto-ionization (electron shakeoff) probabilities, see 1972Ca27 and 1974Ha12.

For calculations of auto-ionization probabilities of K and L atomic shells, see: 1968Ca29, 1972Ca27, 1972La07, 1972La09, 1972Mo26, 1975La20, 1977Is05, 1981Mu14, and 1983Mu10.

For measurements of internal bremmstrahlung, see: 1976Na26, 1976Pr02, 1980Ve06, and 1989Ba35.

^{185}Re Levels

E(level)	J^π[†]
0.0	$5/2^+$
125.358 *3*	$7/2^+$

[†] From Adopted Levels.

β^- radiations

Eβ^-(average)=144 keV *7* β^- calorimeter (1956Sh37).

E(decay)	E(level)	Iβ^-[†]	Log *ft*	Comments
(307.1 *9*)	125.358	0.072 *3*	9.92[1u] *2*	av Eβ= 97.1 *3* Iβ^-: from %Iγ=0.0192 *3* (1992Ke02), and α(125γ)=2.76. Other value: %Iβ=0.086 *12* (1971BrXV). E(decay): ($\approx$300β) (125γ) coin scin (1958Ar04).
432.6 *10*	0.0	99.928 *3*	7.51	av Eβ= 126.9 *3* E(decay): from 1967Wi19. Other values: 426 keV *3* (1955Bi60), 425 keV *2* (1956Ma93), 440 keV *5* (1957Du49), and 430 keV *4* (1957Wi16). Others: 1948Pe02, 1948Sa18, 1948Sh24, 1957Th06, 1957Wu44, 1957Zi08, and 1966Sp06.

[†] Absolute intensity per 100 decays.

γ(^{185}Re)

Iγ normalization: from %Iγ=0.0192 *7* (1992Ke02).

x-ray intensities relative to 100 for 125γ.

x ray	Intensity	Detector	Reference
K x ray	275	scin	1958Bi39
Kα x ray	214 *10*	Ge(Li)	1972Ca27

Continued on next page (footnotes at end of table)

^{185}W β^- decay 1972Ca27 (continued)

$\gamma(^{185}Re)$ (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	δ	α[‡]	Comments
125.358 *3*	100	125.358	7/2$^+$	0.0	5/2$^+$	M1+E2	+0.18 *1*	2.76	α(K)= 2.26; α(L)= 0.387; α(M)= 0.0890; α(N+..)= 0.0273 E_γ: from ^{185}Os ε decay (1977Br22). Other values from ^{185}W β^- decay: 125 keV $\beta\gamma$ coin scin (1958Ar04), 126 keV *2* scin (1958Bi39), 125.22 keV *4* Ge(Li) (1971BrXV). Others: 1957Du49, 1957Wi16. I_γ: measured absolute intensities: %Iγ=0.0192 *7* (1992Ke02); %Iγ=0.0186 *38*, from %I(γ+ce)=0.070 *14* (1970Sh09) and α(125γ)=2.76. Mult.: from ce data in ^{185}Os ε decay. δ: value recommended by 1976Kr21, based on +0.176 *17* (1966As02), +0.186 *12* (1970St08), and +0.186 *19* (1972Be41), measured in ^{185}Os ε decay. δ=0.187 *37* deduced by 1981El11 from measured A_2 and A_4 angular correlation coefficients of 1970St08 and 1972Be41.

[†] For absolute intensity per 100 decays, multiply by 0.000192 *7*.

[‡] 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.

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Decay Scheme

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