^{179}W IT decay (6.40 min) 1969Ko18,1969Bi10,1968Ha39

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 110, 265 (2009)	15-Nov-2008

Parent: ^{179}W: E=221.91 *3*; $J^\pi=1/2^-$; $T_{1/2}$=6.40 min *7*; %IT decay=99.71 *4*

^{179}W-%IT decay: from decay scheme assuming Ti(120.1γ+221.5γ+238.7γ(ε))=100% and I(239γ):I(222γ)=100 *5*:3870 *300* (1969Ko18).

1969Ko18: measured Eγ, Iγ, γγ coin, Ice, γ(t). Detectors:Ge(Li), Si(Li).

1969Bi10: measured Eγ, Iγ. Detector:Ge(Li).

1968Ha39: measured Eγ, Ice. Detector: magnetic spectrograph.

^{179}W Levels

E(level)†	J^π‡	$T_{1/2}$	Comments
0.0#	$7/2^-$	37.05 min *16*	$T_{1/2}$: from Adopted Levels.
120.1# *3*	$9/2^-$		
221.52@ *19*	$1/2^-$	6.40 min *7*	$T_{1/2}$: highest precision datum from 1969Bi10. Other data: 1950Wi67, 1956Ro27, 1960Ha18, 1969Ko18 (6.7 min *3*), 1969Bi10 (6.32 min *22*, 6.6 min *13*, 6.8 min *6*).

† From least-squares fit to Eγ.
‡ From Adopted Levels.
# Band(A): 7/2[514] g.s. band.
@ Band(B): 1/2[521] band.

γ(^{179}W)

Iγ normalization: from decay scheme assuming Ti(120.1γ+221.5γ+238.7γ(ε))=100% and I(239γ):I(222γ)=100 *5*:3870 *300* (1969Ko18).

E_γ†	I_γ†‡	E_i(level)	J_i^π	E_f	J_f^π	Mult.	δ	α#	Comments
101.6 *5*	0.34 *3*	221.52	$1/2^-$	120.1	$9/2^-$	[E4]		1.32×10^3 *5*	α(K)=4.09 *7*; α(L)=9.5×10^2 *4*; α(M)=292 *11*; α(N+..)=79 *3* α(N)=71 *3*; α(O)=8.9 *4*; α(P)=0.0165 *6* I_γ: from intensity balance at 120.1 level. Transition observed in ce spectrum only.
120.1 *3*	145 *14*	120.1	$9/2^-$	0.0	$7/2^-$	M1+E2	2.6	2.03 *4*	Mult.: L:M=4.1 *5*:1.03 *17* (1969Ko18). α(K)=0.833 *13*; α(L)=0.907 *17*; α(M)=0.228 *4*; α(N+..)=0.0612 *11* α(N)=0.0537 *10*; α(O)=0.00745 *14*; α(P)=7.07×10^{-5} *11* Mult.: from α(K)exp=1.07 *15* (relative to α(K)exp(221.5γ)=α(K)(M3 theory)=6.45) and K:L:M=237 *30*:166 *17*:120 *60* (1969Ko18). Other data: ce(K):ce(L1):ce(L2):ce(L3):ce(M) exp=305:65:250:225:134 (1968Ha39). δ: from sub-shell ratios (1968Ha39).
221.5 *2*	3.87×10^3 *30*	221.52	$1/2^-$	0.0	$7/2^-$	M3		10.18	α(K)=6.44 *10*; α(L)=2.81 *5*; α(M)=0.722 *11*; α(N+..)=0.204 *3* α(N)=0.176 *3*; α(O)=0.0270 *4*; α(P)=0.001359 *20*

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^{179}W IT decay (6.40 min) 1969Ko18,1969Bi10,1968Ha39 (continued)

γ(^{179}W) (continued)

E_γ [†]	E_i(level)	Comments
		%Iγ=8.81 *24* assuming adopted normalization. Mult.: K:L:M=3.8 *4*:1.61 *16*:0.52 *5* (1969Ko18). Other data: 1968Ha39.

[†] From 1969Ko18.
[‡] For absolute intensity per 100 decays, multiply by 2.2734×10^{-3} *9*.
[#] 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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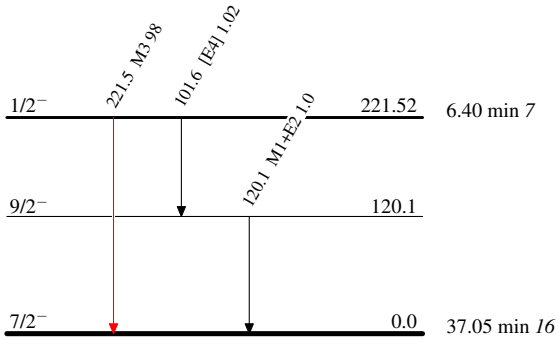
Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
%IT=99.71 *4*

Legend
$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$



$^{179}_{74}W_{105}$

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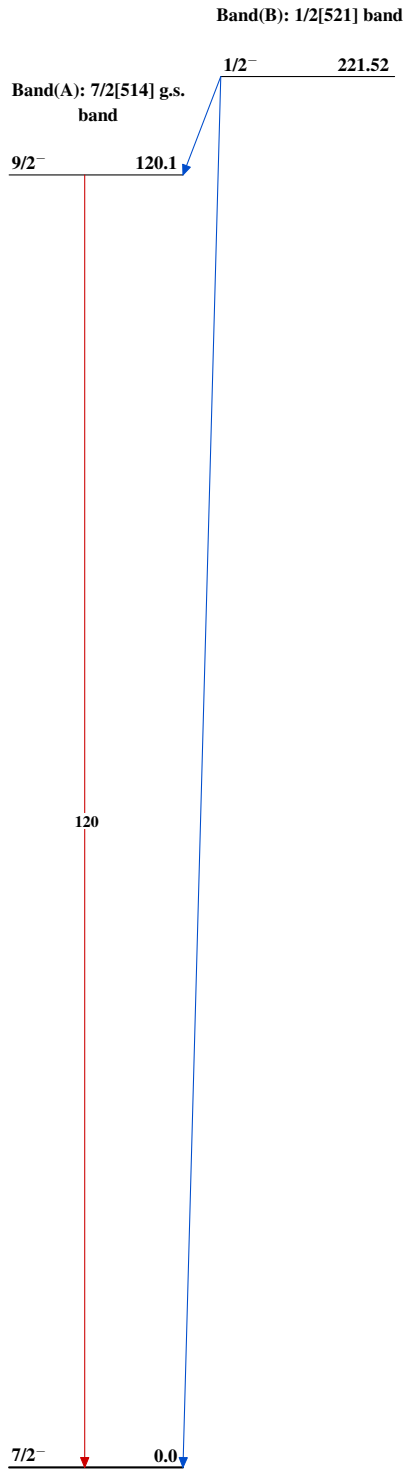

$^{179}_{74}W_{105}$