^{167}Re ε decay   1992Me10

	Type	Author	History Citation	Literature Cutoff Date
	Full Evaluation	Coral M. Baglin	NDS 90, 431 (2000)	5-Jul-2000

Parent: ^{167}Re: E=0.0; J^{π}=(9/2$^-$); $T_{1/2}$=5.9 s 3; Q(ε)=7350 *SY*; %ε+%β^+ decay≈99.0

^{167}Re-%ε+%β^+ decay: %α≈1 from 1992Me10, assuming the 137γ and 221γ observed following ε decay of ^{167}Re represent the total ε decay intensity.

1992Me10 suggest that the 136.6γ observed in ^{167}Re ε decay is the same transition as observed in (HI,xnγ) reactions. The adopted placement for the latter transition shows it feeding a (7/2$^-$) level. The evaluator presumes that this is the same 7/2$^-$ level as is fed in ^{171}Os α decay. 1992Me10 further suggest that the 137γ and the 221γ are probably non-cascading γ's; if so, the (strong) 221γ presumably feeds either the 0+x or the 79+x level, implying a level at either 221.3+x or 300.3+x.

^{167}W Levels

E(level)	$J^{\pi\dagger}$	Comments
0.0+x	(5/2$^-$)	
79+x	(7/2$^-$)	E(level): from Adopted Levels.
215.6+x?	(9/2$^-$)	

† From Adopted Levels.

$\gamma(^{167}$W)

$E_{\gamma}{}^{\dagger}$	$I_{\gamma}{}^{\dagger}$	E_i(level)	J_i^{π}	E_f	J_f^{π}	Mult.	$\alpha^{\ddagger}$	Comments
(79)		79+x	(7/2$^-$)	0.0+x	(5/2$^-$)	[M1,E2]	10.1 *4*	α(K)=5 *4*; α(L)=4 *3*; α(M)=1.0 *8*; α(N+..)=0.30 *22*
136.6$^{\#}$ *2*	51 *6*	215.6+x?	(9/2$^-$)	79+x	(7/2$^-$)	[M1,E2]	1.6 *4*	α(K)=1.1 *6*; α(L)=0.41 *15*; α(M)=0.10 *4*; α(N+..)=0.030 *12*
^{x}221.3 *2*	100							Additional information 1.

† From 1992Me10. Both gammas are coincident with Kα x ray from W.

‡ 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.

$^{\#}$ Placement of transition in the level scheme is uncertain.

^{x} γ ray not placed in level scheme.

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Decay Scheme

Intensities: Relative I$_\gamma$

Legend

- - - - - - ► γ Decay (Uncertain)

$(9/2^-)$ 0.0   5.9 s *3*

$\%\varepsilon + \%\beta^+ \approx 99.0$

Q$_\varepsilon$=7350 *SY*

${}^{167}_{75}$Re$_{92}$

136.6 [M1,E2] 51

$(9/2^-)$ 215.6+x

79 [M1,E2]

$(7/2^-)$ 79+x

$(5/2^-)$ 0.0+x

${}^{167}_{74}$W$_{93}$