^{166}Re ε decay   1992Me10

		History		
Type	Author	Citation	Literature Cutoff Date	
Full Evaluation	Coral M. Baglin	NDS 109, 1103 (2008)	1-Mar-2008	

Parent: ^{166}Re: E=0.0; T$_{1/2}$=2.25 s 21; Q(ε)=10040 SY; %ε+%β^+ decay>76.0

^{166}Re-%ε+%β^+ decay: %(ε+β^+)>76 based on %α<24 estimated assuming a g.s. to g.s. transition and HF>1 for ^{166}Re α decay. See comment on %α for ^{166}Re g.s. In ^{166}Re Adopted Levels.

1992Me10: sources from ^{141}Pr(^{32}S,pxn), E=204 MeV; measured Eγ, Iγ, K x ray-γ coin, $\gamma\gamma$ coin, Eα (^{166}Re), γ excitation functions, γ(t), α(t). Isotopic identification from excit and cross bombardments.

The partial decay scheme is taken from 1992Me10. it has not been normalized because Q(ε) is large ($\approx$10 MeV) and the scheme is almost certainly very incomplete.

^{166}W Levels

E(level)†	J$^{\pi ‡}$
0.0	0^+
252.3 2	2^+
676.2 3	4^+
1226.4 3	6^+

† From Eγ.
‡ From Adopted Levels.

ε,β^+ radiations

E(decay)	E(level)	Comments
(8813† SY)	1226.4	Additional information 1.
(9363† SY)	676.2	Additional information 2.
(9787† SY)	252.3	Additional information 3.

† Existence of this branch is questionable.

γ(^{166}W)

E$_\gamma$†	I$_\gamma$†	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.‡	$\alpha$$^{\#}$	Comments
252.3 2	100	252.3	2^+	0.0	0^+	E2	0.1447	α(K)=0.0903 13; α(L)=0.0414 6; α(M)=0.01020 15; α(N+..)=0.00277 4 α(N)=0.00242 4; α(O)=0.000346 5; α(P)=7.49×10^{-6} 11 coincident with K x ray(W).
423.9 2	52 6	676.2	4^+	252.3	2^+	(E2)	0.0321	α(K)=0.0237 4; α(L)=0.00639 9; α(M)=0.001529 22; α(N+..)=0.000421 6 α(N)=0.000364 6; α(O)=5.46×10^{-5} 8; α(P)=2.14×10^{-6} 3 coincident with K x ray(W) and $\gamma^\pm$.
550.2 2	26 4	1226.4	6^+	676.2	4^+	(E2)	0.01661	α(K)=0.01289 18; α(L)=0.00286 4; α(M)=0.000675 10; α(N+..)=0.000187 3 α(N)=0.0001611 23; α(O)=2.47×10^{-5} 4; α(P)=1.184×10^{-6} 17

† From 1992Me10.
‡ From Adopted Gammas.

^{166}Re ε decay   1992Me10 (continued)

$\gamma(^{166}$W) (continued)

[#] 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.

^{166}**Re** ε **decay**　　　**1992Me10**

Decay Scheme

Intensities: Relative I$_\gamma$

Legend

I$_\gamma$ < 2%×I$_\gamma^{max}$
I$_\gamma$ < 10%×I$_\gamma^{max}$
I$_\gamma$ > 10%×I$_\gamma^{max}$
● Coincidence

0.0　　2.25 s *21*

%ε + %β^+ >76.0　　Q$_\varepsilon$=10040 *SY*

$^{166}_{75}$Re$_{91}$

550.2 (E2) 26

6$^+$　　　　　　　　　　1226.4

423.9 (E2) 52

4$^+$　　　　　　　　　　676.2

252.3 E2 100

2$^+$　　　　　　　　　　252.3

0$^+$　　　　　　　　　　0.0

$^{166}_{74}$W$_{92}$