^{95}Rh ε decay (5.02 min) 1981Gr20,1979Zy03,1975We03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. K. Basu, G. Mukherjee, A. A. Sonzogni	NDS 111, 2555 (2010)	30-Jun-2009

Parent: ^{95}Rh: E=0.0; $J^\pi=9/2^+$; $T_{1/2}$=5.02 min *10*; Q(ε)=5112 *12*; %ε+%$β^+$ decay=100.0
1975We03: Measured γ's, $β^+$'s, γγ-coin, βγ-coin, γ(t); Ge(Li), scin.
1981Gr20,1979Zy03: see 1.96-min ^{95}Rh ε decay for experimental details.
α: Additional information 1.

^{95}Ru Levels

The decay scheme is based on coincidence data (1975We03). States proposed by 1981Gr20 were tentatively adopted by the evaluator if they are connected by at least two γ's and not in contradiction to the coincidence measurements of 1975We03.

E(level)	J^π†	$T_{1/2}$†	E(level)	J^π†
0.0	$5/2^+$	1.643 h *13*	2695.6? *3*	(9/2)
941.70 *16*	$7/2^{(+)}$		2902.2? *3*	$(7/2,9/2,11/2)^+$
1352.00 *17*	$9/2^+$		3062.9 *3*	$(7/2,9/2)^+$
1494.67 *23*	(7/2,9/2)		3163.2? *8*	$(7/2,9/2)^+$
1524.0? *3*	(7/2,9/2)		3551.2 *3*	$(7/2,9/2)^+$
1925.27? *24*	(7/2,9/2)		3655.8? *7*	$(7/2,9/2,11/2)^+$
2029.68 *21*	$13/2^{(+)}$		3686.7? *8*	$(7/2,9/2)^+$
2117.0 *4*	$7/2^+,9/2^+$		3733.5 *3*	$(7/2,9/2)^+$
2155.69? *24*	(7/2,9/2)		3744.0? *12*	$(9/2,11/2)^+$
2246.9 *3*	$11/2^+$		3779.2 *3*	$(9/2)^+$
2258.80 *21*	$(9/2,11/2)^+$		3975.7? *8*	$(7/2,9/2,11/2)^+$
2268.1? *3*	(7/2,9/2)		3983.5? *5*	$(7/2,9/2)^+$
2431.07 *23*	$(9/2,11/2)^+$		4177.7? *12*	$(7/2,9/2)^+$
2690.96 *25*	(9/2,11/2)			

† From the Adopted Levels.

ε,$β^+$ radiations

See 1981Gr20 for the deduced β-strength function.

E(decay)	E(level)	Iβ+ ‡	Iε‡	Log *ft*	I(ε+β+)†‡	Comments
(934# *12*)	4177.7?		0.28 *5*	5.18 *8*	0.28 *5*	εK=0.8649; εL=0.10928 *6*; εM+=0.02580 *2*
(1129# *12*)	3983.5?		0.90 *11*	4.84 *6*	0.90 *11*	εK=0.8657; εL=0.10861 *4*; εM+=0.02562 *1*
(1136# *12*)	3975.7?		0.99 *16*	4.80 *8*	0.99 *16*	εK=0.8658; εL=0.10858 *4*; εM+=0.02561 *1*
(1333 *12*)	3779.2	0.0050 *9*	1.54 *14*	4.75 *4*	1.55 *14*	av Eβ=144.1 *52*; εK=0.8636 *5*; εL=0.10777 *9*; εM+=0.02540 *2*
(1368# *12*)	3744.0?	0.0031 *9*	0.62 *15*	5.17 *11*	0.62 *15*	av Eβ=159.3 *52*; εK=0.8622 *6*; εL=0.1075 *1*; εM+=0.02534 *3*
(1379 *12*)	3733.5	0.0148 *22*	2.63 *15*	4.55 *3*	2.64 *15*	av Eβ=163.8 *52*; εK=0.8616 *7*; εL=0.1074 *1*; εM+=0.02532 *3*
(1425# *12*)	3686.7?	0.0042 *8*	0.46 *7*	5.34 *7*	0.46 *7*	av Eβ=183.9 *52*; εK=0.8587 *10*; εL=0.10696 *14*; εM+=0.02521 *4*
(1456# *12*)	3655.8?	0.0062 *12*	0.50 *8*	5.32 *7*	0.51 *8*	av Eβ=197.2 *52*; εK=0.8562 *12*; εL=0.10659 *17*; εM+=0.02512 *4*
(1561 *12*)	3551.2	0.037 *4*	1.32 *10*	4.96 *4*	1.36 *10*	av Eβ=242.3 *52*; εK=0.8436 *19*; εL=0.1048 *3*;

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^{95}Rh ε decay (5.02 min) 1981Gr20,1979Zy03,1975We03 (continued)

ε,β+ radiations (continued)

E(decay)	E(level)	Iβ+ ‡	Iε‡	Log *ft*	I(ε+β+)†‡	Comments
						εM+=0.02470 *7*
(1949# *12*)	3163.2?	0.175 *23*	0.92 *12*	5.31 *6*	1.09 *14*	av Eβ=410.8 *53*; εK=0.728 *6*; εL=0.0901 *7*; εM+=0.02120 *16*
(2049 *12*)	3062.9	0.53 *3*	1.95 *11*	5.03 *3*	2.48 *14*	av Eβ=454.8 *53*; εK=0.683 *6*; εL=0.0843 *8*; εM+=0.01986 *17*
(2210# *12*)	2902.2?	0.29 *3*	0.67 *6*	5.56 *5*	0.96 *9*	av Eβ=525.9 *54*; εK=0.603 *7*; εL=0.0744 *8*; εM+=0.01750 *18*
(2416# *12*)	2695.6?	0.32 *5*	0.42 *7*	5.84 *8*	0.74 *12*	av Eβ=618.1 *54*; εK=0.498 *6*; εL=0.0614 *8*; εM+=0.01444 *18*
(2421 *12*)	2690.96	1.19 *8*	1.59 *11*	5.26 *4*	2.78 *19*	av Eβ=620.2 *54*; εK=0.496 *6*; εL=0.0611 *8*; εM+=0.01437 *18*
(2681 *12*)	2431.07	2.81 *14*	2.17 *11*	5.218 *25*	4.98 *24*	av Eβ=737.3 *55*; εK=0.378 *5*; εL=0.0465 *6*; εM+=0.01095 *15*
(2844# *12*)	2268.1?	0.55 *8*	0.32 *4*	6.10 *7*	0.87 *12*	av Eβ=811.4 *55*; εK=0.317 *5*; εL=0.0390 *6*; εM+=0.00916 *13*
(2853 *12*)	2258.80	3.1 *2*	1.7 *1*	5.37 *3*	4.8 *3*	av Eβ=815.6 *55*; εK=0.314 *5*; εL=0.0386 *6*; εM+=0.00907 *12*
(2865 *12*)	2246.9	2.16 *11*	1.20 *6*	5.53 *3*	3.36 *17*	av Eβ=821.1 *55*; εK=0.310 *4*; εL=0.0381 *5*; εM+=0.00895 *12*
(2956# *12*)	2155.69?	1.30 *14*	0.62 *7*	5.85 *5*	1.92 *21*	av Eβ=862.7 *55*; εK=0.280 *4*; εL=0.0344 *5*; εM+=0.00810 *11*
(2995 *12*)	2117.0	4.1 *3*	1.9 *2*	5.38 *4*	6.0 *5*	av Eβ=880.4 *55*; εK=0.269 *4*; εL=0.0330 *5*; εM+=0.00776 *11*
(3187# *12*)	1925.27?	0.93 *10*	0.31 *3*	6.21 *5*	1.24 *13*	av Eβ=968.5 *56*; εK=0.219 *3*; εL=0.0268 *4*; εM+=0.00631 *9*
(3588# *12*)	1524.0?	1.1 *3*	0.22 *5*	6.47 *10*	1.3 *3*	av Eβ=1154.4 *56*; εK=0.1446 *18*; εL=0.01772 *22*; εM+=0.00417 *5*
(3617 *12*)	1494.67	0.7 *3*	0.1 *1*	6.70 *22*	0.8 *4*	av Eβ=1168.1 *56*; εK=0.1404 *17*; εL=0.01721 *21*; εM+=0.00405 *5*
(3760 *12*)	1352.00	6.9 *7*	1.1 *1*	5.80 *5*	8.0 *8*	av Eβ=1234.7 *57*; εK=0.1224 *14*; εL=0.01499 *18*; εM+=0.00352 *4*
4.17×10^3 *15*	941.70	44.5 *5*	4.79 *8*	5.260 *12*	49.3 *5*	av Eβ=1427.2 *57*; εK=0.0844 *9*; εL=0.01033 *11*; εM+=0.00243 *3* E(decay): from Eβ based on F-K plot of β+'s in coin with 942γ (1975We03).

† From gamma intensity balance at each level.
‡ Absolute intensity per 100 decays.
# Existence of this branch is questionable.

γ(^{95}Ru)

Iγ normalization: From ΣIγ(to g.s.)=100, assuming no g.s. to g.s. feeding.

Eγ†	Iγ†e	Ei(level)	J_i^π	E_f	J_f^π	Mult.‡	α	Comments
229.3 *3*	3.2 *2*	2258.80	(9/2,11/2)+	2029.68	13/2(+)	[M1,E2]	0.050 *18*	α(K)=0.043 *15*; α(L)=0.0058 *25*; α(M)=0.0011 *5*; α(N)=0.00017 *7*; α(O)=7.3×10^{-6} *21* α(N+..)=0.00018 *7*

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^{95}Rh ε decay (5.02 min) 1981Gr20,1979Zy03,1975We03 (continued)

γ(^{95}Ru) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	α	Comments
401.2[fg] 3	0.64[f] 12	1925.27?	(7/2,9/2)	1524.0?	(7/2,9/2)			
401.2[f#] 3	0.64[f] 12	2431.07	(9/2,11/2)$^+$	2029.68	13/2$^{(+)}$	[M1,E2]	0.0092 13	α(K)=0.0080 11; α(L)=0.00098 18; α(M)=0.00018 4; α(N)=2.9×10^{-5} 5; α(O)=1.41×10^{-6} 15; α(N+..)=3.0×10^{-5} 5
410.3 3	1.50 15	1352.00	9/2$^+$	941.70	7/2$^{(+)}$			
(553.1[@])	≤0.20[@]	1494.67	(7/2,9/2)	941.70	7/2$^{(+)}$			
622.5 5	3.7 3	2117.0	7/2$^+$,9/2$^+$	1494.67	(7/2,9/2)			
661.0[fg] 3	2.15[f] 15	2155.69?	(7/2,9/2)	1494.67	(7/2,9/2)			
661.0[f&] 3	2.15[f] 15	2690.96	(9/2,11/2)	2029.68	13/2$^{(+)}$			
666.1[ag] 3	0.55 7	2695.6?	(9/2)	2029.68	13/2$^{(+)}$			
677.6 3	8.1 3	2029.68	13/2$^{(+)}$	1352.00	9/2$^+$			
764.4 7	3.0 5	2117.0	7/2$^+$,9/2$^+$	1352.00	9/2$^+$			
895.0[b] 3	2.4 2	2246.9	11/2$^+$	1352.00	9/2$^+$			
906.9 3	0.85 9	2258.80	(9/2,11/2)$^+$	1352.00	9/2$^+$			
941.6 3	100	941.70	7/2$^{(+)}$	0.0	5/2$^+$			
(983.9[@])	≤0.20[@]	1925.27?	(7/2,9/2)	941.70	7/2$^{(+)}$			
1079.3 3	1.85 15	2431.07	(9/2,11/2)$^+$	1352.00	9/2$^+$			
1175.4 6	2.2 4	2117.0	7/2$^+$,9/2$^+$	941.70	7/2$^{(+)}$			
1292.5 3	0.55 7	3551.2	(7/2,9/2)$^+$	2258.80	(9/2,11/2)$^+$			
1305.1 3	2.50 15	2246.9	11/2$^+$	941.70	7/2$^{(+)}$			
1317.0 3	4.2 3	2258.80	(9/2,11/2)$^+$	941.70	7/2$^{(+)}$			
1326.6[ag] 3	1.10 10	2268.1?	(7/2,9/2)	941.70	7/2$^{(+)}$			
1339.0 5	1.0 2	2690.96	(9/2,11/2)	1352.00	9/2$^+$			
1352.0 3	29.1 9	1352.00	9/2$^+$	0.0	5/2$^+$			
1378.5[g] 3	0.77 8	2902.2?	(7/2,9/2,11/2)$^+$	1524.0?	(7/2,9/2)			
1388.7[cg] 10	0.41[c] 10	3655.8?	(7/2,9/2,11/2)$^+$	2268.1?	(7/2,9/2)			
1489.3 3	4.8 3	2431.07	(9/2,11/2)$^+$	941.70	7/2$^{(+)}$			
1494.7 3	7.0 4	1494.67	(7/2,9/2)	0.0	5/2$^+$			
1524.5[g] 5	3.3 4	1524.0?	(7/2,9/2)	0.0	5/2$^+$			
1549.9[g] 3	0.60 10	2902.2?	(7/2,9/2,11/2)$^+$	1352.00	9/2$^+$			
1588.7[cg] 15	0.42[c] 10	3744.0?	(9/2,11/2)$^+$	2155.69?	(7/2,9/2)			
1713.6[cg] 20	0.5[c] 2	3744.0?	(9/2,11/2)$^+$	2029.68	13/2$^{(+)}$			
1718.1[cg] 20	0.8[c] 2	3975.7?	(7/2,9/2,11/2)$^+$	2258.80	(9/2,11/2)$^+$			
1749.5[f] 3	0.90[f] 10	2690.96	(9/2,11/2)	941.70	7/2$^{(+)}$			
1749.5[fd] 3	0.90[f] 10	3779.2	(9/2)$^+$	2029.68	13/2$^{(+)}$			
(1752.8[@])	≤0.3[@]	2695.6?	(9/2)	941.70	7/2$^{(+)}$			
1925.3[g] 3	1.09 10	1925.27?	(7/2,9/2)	0.0	5/2$^+$			
(2028.6[@])	≤0.05[@]	2029.68	13/2$^{(+)}$	0.0	5/2$^+$			
2121.0 3	2.25 15	3062.9	(7/2,9/2)$^+$	941.70	7/2$^{(+)}$			
2155.7[g] 3	1.10 25	2155.69?	(7/2,9/2)	0.0	5/2$^+$			
2221.8[cg] 10	1.3[c] 2	3163.2?	(7/2,9/2)$^+$	941.70	7/2$^{(+)}$			
(2246.7[@])	≤0.1[@]	2246.9	11/2$^+$	0.0	5/2$^+$			
(2258.5[@])	≤0.10[@]	2258.80	(9/2,11/2)$^+$	0.0	5/2$^+$			
2267.0[cg] 10	0.59[c] 10	2268.1?	(7/2,9/2)	0.0	5/2$^+$			
2334.7[cg] 10	0.50[c] 10	3686.7?	(7/2,9/2)$^+$	1352.00	9/2$^+$			
2427.2[c] 10	0.49[c] 10	3779.2	(9/2)$^+$	1352.00	9/2$^+$			
(2431.1[@])	≤0.1[@]	2431.07	(9/2,11/2)$^+$	0.0	5/2$^+$			

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^{95}Rh ε decay (5.02 min) 1981Gr20,1979Zy03,1975We03 (continued)

γ(^{95}Ru) (continued)

E_γ †	I_γ †e	E_i(level)	J_i^π	E_f	J_f^π
x2586.0 15	0.18 4				
2609.3 3	0.95 10	3551.2	(7/2,9/2)+	941.70	7/2(+)
(2691.0@)	≤0.1@	2690.96	(9/2,11/2)	0.0	5/2+
2694.6cg 15	0.39c 8	2695.6?	(9/2)	0.0	5/2+
2713.0cg 15	0.32c 7	3655.8?	(7/2,9/2,11/2)+	941.70	7/2(+)
2791.8 3	3.4 2	3733.5	(7/2,9/2)+	941.70	7/2(+)
(2902.5@)	≤0.1@	2902.2?	(7/2,9/2,11/2)+	0.0	5/2+
3033.2cg 15	0.63c 12	3975.7?	(7/2,9/2,11/2)+	941.70	7/2(+)
3041.7g 5	0.65 6	3983.5?	(7/2,9/2)+	941.70	7/2(+)
3063.2 5	1.40 15	3062.9	(7/2,9/2)+	0.0	5/2+
3162.3cg 15	0.30c 6	3163.2?	(7/2,9/2)+	0.0	5/2+
3237.0cg 15	0.32c 6	4177.7?	(7/2,9/2)+	941.70	7/2(+)
x3473.9 15	0.27 8				
3551.1 7	0.50 8	3551.2	(7/2,9/2)+	0.0	5/2+
(3655.1@)	≤0.05@	3655.8?	(7/2,9/2,11/2)+	0.0	5/2+
3686.5cg 15	0.18c 4	3686.7?	(7/2,9/2)+	0.0	5/2+
3733.5 10	0.50 8	3733.5	(7/2,9/2)+	0.0	5/2+
3778.9 10	0.90 15	3779.2	(9/2)+	0.0	5/2+
(3975.7@)	≤0.05@	3975.7?	(7/2,9/2,11/2)+	0.0	5/2+
3983.8cg 20	0.68c 15	3983.5?	(7/2,9/2)+	0.0	5/2+
x4074.9 20	0.11 3				
4175.6cg 20	0.10c 3	4177.7?	(7/2,9/2)+	0.0	5/2+

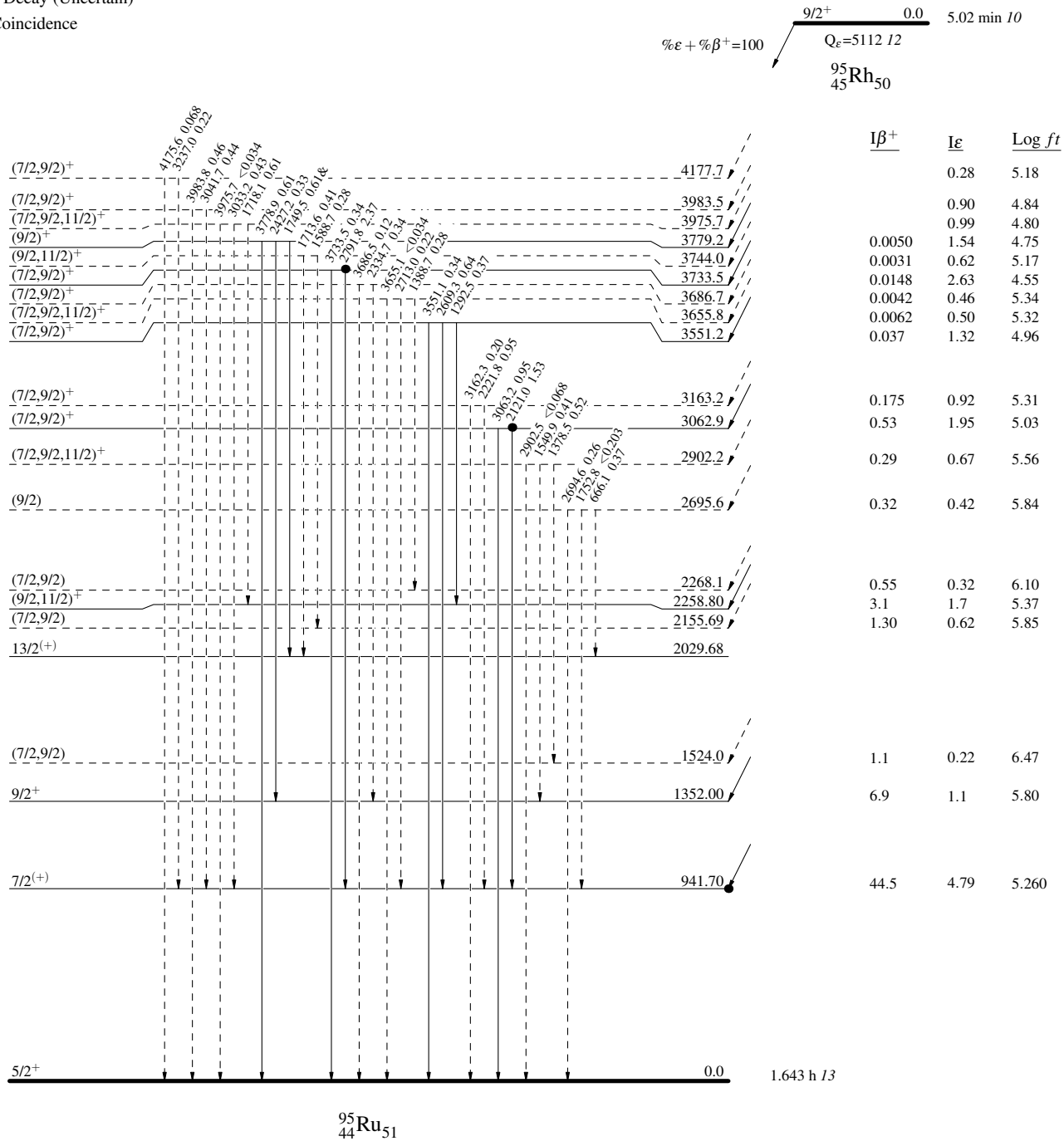
† From 1975We03, except as noted.
‡ From the adopted gammas.
# Assigned to 1926 state by 1981Gr20.
@ From 1981Gr20. It is unclear to the evaluator whether the upper limit on Iγ was estimated from the γ spectra or based on theoretical grounds for the β-strength function calculation.
& Assigned to 2156 state by 1981Gr20.
a Tentatively assigned to a 3356 state by 1975We03.
b Not assigned by 1981Gr20.
c From 1979Zy03. Not reported by 1975We03.
d Assigned only to the 2691 state by 1981Gr20.
e For absolute intensity per 100 decays, multiply by 0.67817.
f Multiply placed with undivided intensity.
g Placement of transition in the level scheme is uncertain.
x γ ray not placed in level scheme.

^{95}Rh ε decay (5.02 min) 1981Gr20,1979Zy03,1975We03

Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
& Multiply placed: undivided intensity given

Legend
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- γ Decay (Uncertain)
- Coincidence



$^{95}_{44}Ru_{51}$

^{95}Rh ε decay (5.02 min) 1981Gr20,1979Zy03,1975We03

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
& Multiply placed: undivided intensity given