^{95}Mo(^{3}He,2nγ) 2002Kl07

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	D. Abriola(a), A. A. Sonzogni	NDS 109, 2501 (2008)	1-Apr-2008

E=13.5 MeV. Measured Eγ, Iγ, $\gamma\gamma$, $\gamma\gamma(\theta)$, angular correlation and Doppler-shift attenuation measurements (DSAM) using Osiris cube spectrometer equipped with 7 HPGe γ detectors and the EUROBALL array. This dataset also includes data from a ^{96}Rh $\varepsilon+\beta^+$ decay experiment, the source was produced with a pulsed proton beam at E=15 MeV on a ^{96}Ru target. Some gamma rays were observed only in the $\varepsilon+\beta^+$ study, while other gammas were observed only in the (^{3}He,2nγ) experiment.

^{96}Ru Levels

E(level)	J$^\pi$[†]	T$_{1/2}$[‡]	E(level)	J$^\pi$[†]	T$_{1/2}$[‡]
0.0[#]	0^+	stable	2793.92 *9*	(5,6)	
832.57[#] *5*	2^+	2.81 ps *11*	2851.16 *14*	$(2^+,3)$	0.14 ps *+10−5*
1518.08[#] *6*	4^+	6.9 ps *9*	2891.67 *11*	6^+	<0.20 ps
1931.14 *8*	2^+	0.37 ps *6*	2897.64 *13*	3^+	<0.4 ps
2148.80 *8*	0^+	0.46 ps *+63−18*	2950.38[#] *11*	8^+	20 ps *2*
2149.78[#] *8*	6^+	26 ps *2*	2996.30 *16*	$(2,3,4)^+$	
2283.94 *13*	2^+	<0.14 ps	3060.52 *16*	(1,4)	
2462.12 *10*	4	0.10 ps *+5−3*	3072.26 *22*	(3,4)	
2524.84 *11*	$3^+,4^+$	<0.4 ps	3076.41 *12*	3^-	
2528.48 *10*	$1^+,2^+$		3090.21 *19*	2^+	<0.13 ps
2576.01 *10*	2^+		3166.79 *21*	(5,6)	
2588.46[@] *10*	5^-	>2.8 ps	3210.15 *22*	(2,6)	
2650.00 *9*	3^-		3261.04 *18*	2^+	
2699.78 *19*	$4^+,5$		3281.4 *3*	(3,7)	
2739.86 *14*	2^+	<0.4 ps	3291.56 *18*	4^+	<0.4 ps
2760.21 *11*	$4^+,5$	<0.12 ps	3291.63[@] *18*	7^-	

[†] From Adopted Levels.
[‡] From DSAM in 2002Kl07.
[#] Band(A): g.s. cascade.
[@] Band(B): 5^- cascade.

$\gamma(^{96}Ru)$

E$_i$(level)	J$_i^\pi$	E$_\gamma$	I$_\gamma$[†]	E$_f$	J$_f^\pi$	Mult.	δ
832.57	2^+	832.6 *1*	100	0.0	0^+		
1518.08	4^+	685.5 *1*	100	832.57	2^+		
1931.14	2^+	1098.5 *1*	100	832.57	2^+	E2+M1	−1.1 *1*
		1930.9[‡] *2*	6.0 *10*	0.0	0^+		
2148.80	0^+	1316.2 *1*	100	832.57	2^+		
2149.78	6^+	631.7 *1*	100	1518.08	4^+		
2283.94	2^+	1451.2 *2*	100 *3*	832.57	2^+	(M1+E2)	+0.12 *3*
		2283.6 *4*	7.5 *10*	0.0	0^+		
2462.12	4	944.1 *1*	100	1518.08	4^+		
2524.84	$3^+,4^+$	593.8 *2*	7.1 *24*	1931.14	2^+		
		1006.7 *2*	10.6 *24*	1518.08	4^+		
		1692.2 *2*	100.0 *20*	832.57	2^+		
2528.48	$1^+,2^+$	2528.4[#] *3*		0.0	0^+		
2576.01	2^+	1743.4 *1*	100 *4*	832.57	2^+		
		2576.2 *3*	43 *4*	0.0	0^+		

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^{95}Mo(^{3}He,2nγ) 2002Kl07 (continued)

$\gamma(^{96}Ru)$ (continued)

E_i(level)	J_i^π	E_γ	I_γ[†]	E_f	J_f^π	Mult.	δ
2588.46	5$^-$	1070.4 *1*	100	1518.08	4$^+$	E1+M2	−0.01 *4*
2650.00	3$^-$	366.3 *4*	5.5 *5*	2283.94	2$^+$		
		718.5 *2*	4.0 *10*	1931.14	2$^+$		
		1131.9 *2*	20.0 *20*	1518.08	4$^+$		
		1817.5 *1*	100 *10*	832.57	2$^+$		
2699.78	4$^+$,5	237.7 *2*	100	2462.12	4		
		1181.6[#@] *3*		1518.08	4$^+$		
2739.86	2$^+$	455.9 *2*	3.50 *20*	2283.94	2$^+$		
		591.1[‡] *2*	0.25 *5*	2148.80	0$^+$		
		808.4 *3*	100 *8*	1931.14	2$^+$		
		1907.5 *3*	40.0 *20*	832.57	2$^+$		
2760.21	4$^+$,5	1242.1 *1*	100	1518.08	4$^+$		
2793.92	(5,6)	644.2 *1*	100 *3*	2149.78	6$^+$		
		1275.8 *1*	67.0 *20*	1518.08	4$^+$		
2851.16	(2$^+$,3)	567.0 *2*	8.0 *20*	2283.94	2$^+$		
		920.6 *5*	9 *3*	1931.14	2$^+$		
		1332.8 *3*	13.3 *5*	1518.08	4$^+$		
		2018.8 *2*	100 *15*	832.57	2$^+$		
2891.67	6$^+$	741.9 *1*	100	2149.78	6$^+$		
2897.64	3$^+$	435.3[‡] *3*	3.0 *10*	2462.12	4		
		613.8 *3*	20.0 *20*	2283.94	2$^+$		
		966.8 *2*	100 *12*	1931.14	2$^+$		
		1379.5 *3*	63 *12*	1518.08	4$^+$		
		2064.7 *3*	20.0 *20*	832.57	2$^+$		
2950.38	8$^+$	800.7 *1*	100	2149.78	6$^+$		
2996.30	(2,3,4)$^+$	471.4[‡] *5*	15 *5*	2524.84	3$^+$,4$^+$		
		533.7[‡] *3*	3.1 *5*	2462.12	4		
		1479.0[‡] *5*	17 *6*	1518.08	4$^+$		
		2163.8 *2*	100 *11*	832.57	2$^+$		
3060.52	(1,4)	776.8[#] *3*	25 *7*	2283.94	2$^+$		
		1129.1[#] *2*	100 *7*	1931.14	2$^+$		
		2228.3[#] *3*	20 *7*	832.57	2$^+$		
3072.26	(3,4)	483.8[#] *2*	100	2588.46	5$^-$		
3076.41	3$^-$	425.8[‡] *5*	18.0 *20*	2650.00	3$^-$		
		614.9[‡] *2*	8.0 *10*	2462.12	4		
		1144.9[‡] *2*	55 *3*	1931.14	2$^+$		
		1557.4 *3*	1.0×10^2 *4*	1518.08	4$^+$		
		2244.0[‡] *5*	2.2 *5*	832.57	2$^+$		
3090.21	2$^+$	2257.6 *2*	100 *6*	832.57	2$^+$		
		3090.2[‡] *5*	6.4 *21*	0.0	0$^+$		
3166.79	(5,6)	1648.7 *2*	100	1518.08	4$^+$		
3210.15	(2,6)	1692.0 *3*	100 *15*	1518.08	4$^+$		
		2377.6 *3*	64 *25*	832.57	2$^+$		
3261.04	2$^+$	1330.5 *10*		1931.14	2$^+$		
		1743.1[‡] *5*	100 *15*	1518.08	4$^+$		
		2428.3 *2*	32 *7*	832.57	2$^+$		
		3261.5[‡] *5*	9.0 *20*	0.0	0$^+$		
3281.4	(3,7)	692.9[#] *3*	100	2588.46	5$^-$		
3291.56	4$^+$	400.0 *4*	36 *8*	2891.67	6$^+$		
		531.2 *3*	8.0 *20*	2760.21	4$^+$,5		
		766.8 *5*	56 *11*	2524.84	3$^+$,4$^+$		

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^{95}Mo(^{3}He,2nγ) 2002Kl07 (continued)

$\gamma(^{96}Ru)$ (continued)

E_i(level)	J_i^π	E_γ	I_γ [†]	E_f	J_f^π
3291.56	4^+	1773.4 *5*	44 *14*	1518.08	4^+
		2459.1 *5*	100 *14*	832.57	2^+
3291.63	7^-	497.4[#] *4*		2793.92	(5,6)
		703.1 *2*		2588.46	5^-

[†] Relative photon branching ratio for each level.
[‡] Observed only in ^{96}Rh ε decay.
[#] Observed only in ^{95}Mo(^{3}He,2nγ).
[@] Placement of transition in the level scheme is uncertain.

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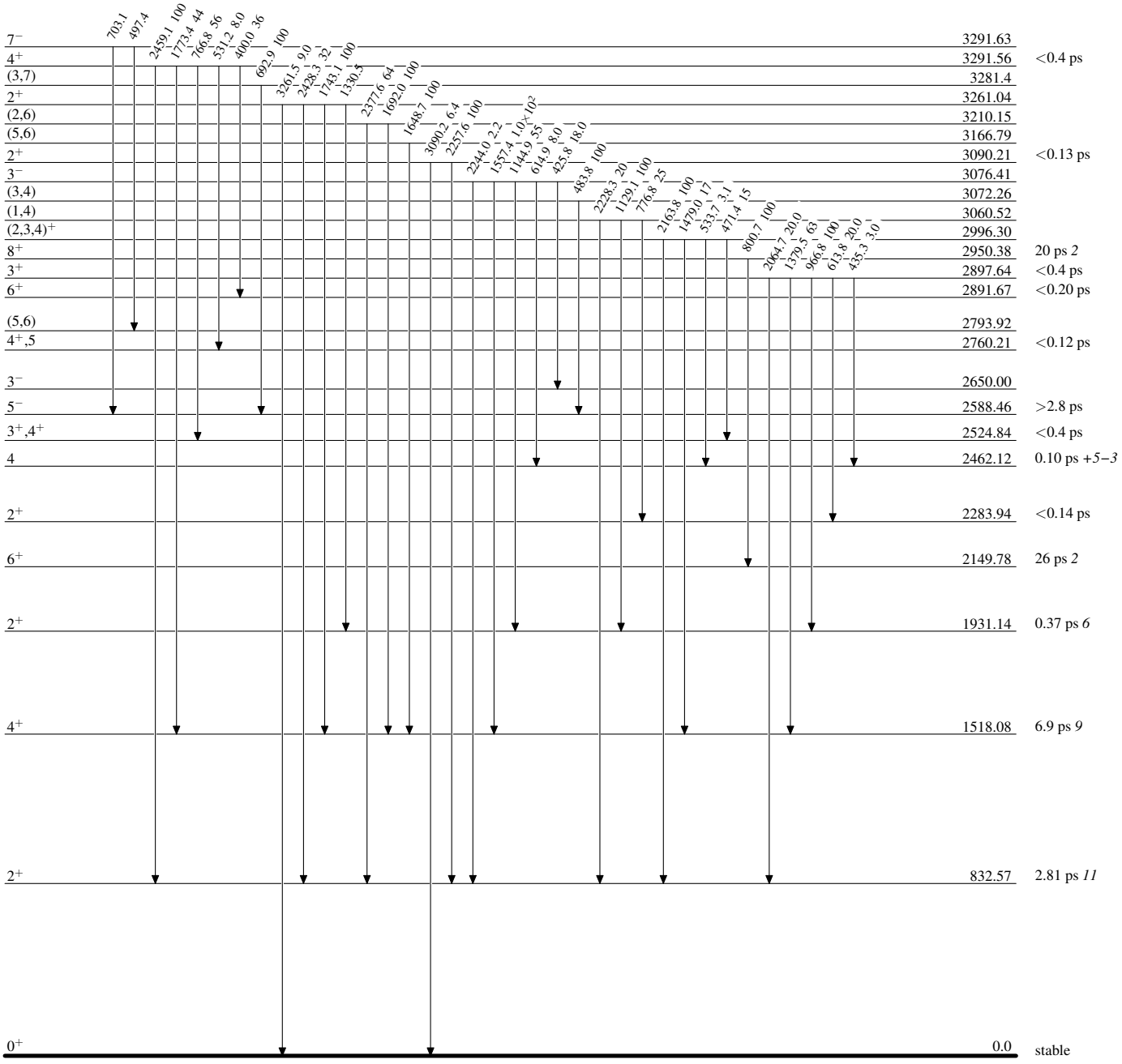
Level Scheme

Intensities: % photon branching from each level



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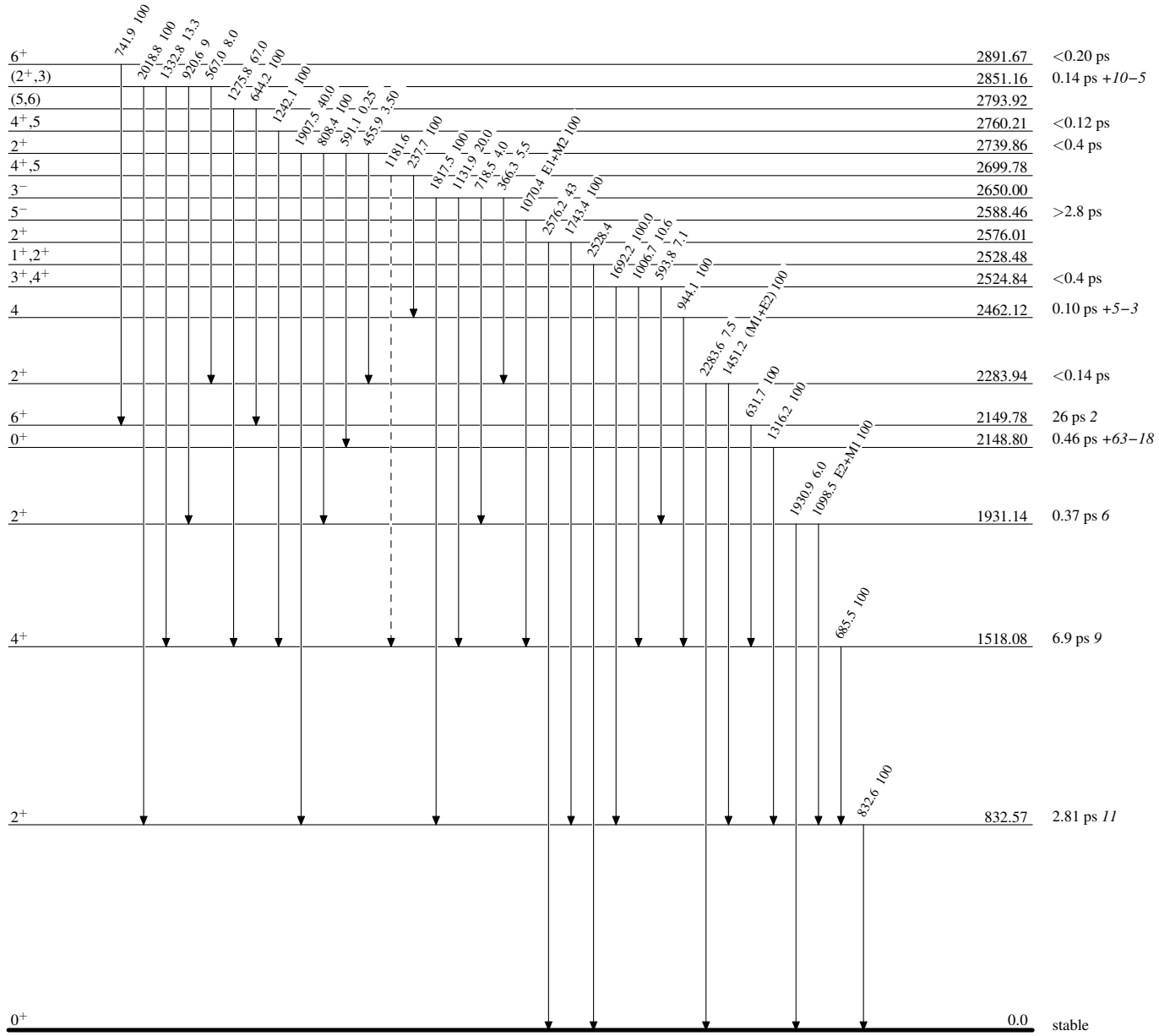
Legend

Level Scheme (continued)

Intensities: % photon branching from each level

γ Decay (Uncertain)



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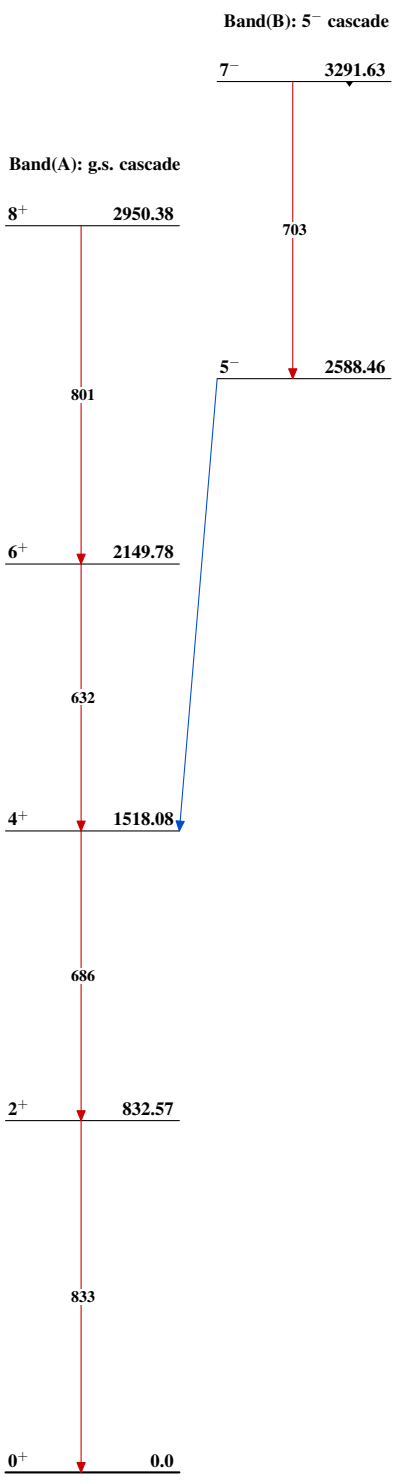

$^{96}_{44}Ru_{52}$