^{101}Ru(n,γ) E=resonance 1974Ri03,1982Co15

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	D. De Frenne	NDS 110, 1745 (2009)	31-Dec-2008

E=15.9, 42.28, 52.13, 61.81, 66.82, 112.5, 197.3 eV.
1974Ri03: measured: neutron tof, Eγ; deduced: partial widths. Authors quote Γ values for the γ's from each of these resonances.
1982Co15: measured: neutron tof, Eγ and population ratios. Deduced: ^{102}Ru levels, J^π.
2006MuZX:about 170 neutron resonances in the range 12.6 keV to 4.4 keV with parameters are listed.

^{102}Ru Levels

E(level)[†]	J$^\pi$[#]	Comments
0	0^+	
475.1[‡]	2^+	
943.8[‡]	0^+	
1103.0[‡]	2^+	
1106.3[‡]	4^+	
1521.7[‡]	3^+	
1580.6[‡]	2^+	
1798.6[‡]	4^+	
1836.4[‡]	0^+	
1873.1[‡]	6^+	
2037.1[‡]	2^+	J$^\pi$: J^π=1 suggested by 1982Co15 not consistent with angular-correlation data of ^{102}Rh (207 d) decay.
2043.6[‡]	3^-	
2190.0 *14*		
2219.3[‡]	5^+	
2243.0 *15*		
2261.2[‡]	2^-	
2303.5[‡]	(4)	J$^\pi$: combining the results of 1974Ri03 and 1982Co15 J^π=(4) is suggested by 1982Co15.
2370.8[‡]		J^π=6^+ is suggested by 1982Co15 from population ratio measurements. In contradiction with J^π=(5^-) from (α,2nγ).
2385.7 *11*		
2423.0 *24*		
2468.7 *11*		
2592.0[‡]	(4)	
2653.2 *12*		
2702.7 *12*		
2711.6 *14*		
2791.1 *10*		
2802.7 *15*		
2822.9 *11*		
2877.5 *13*		
2899.0 *14*		
2946.1 *14*		
2956.4 *17*		
2967.0 *13*		
3034.1 *18*		
3056.9 *14*		
3085.6 *18*		
3157.1 *21*		
3234.2 *11*		
3244.7 *14*		
3347.2 *26*		

Continued on next page (footnotes at end of table)

^{101}Ru(n,γ) E=resonance 1974Ri03,1982Co15 (continued)

^{102}Ru Levels (continued)

E(level)†	E(level)†	E(level)†	E(level)†
3388.6 *13*	3718.4 *11*	3840.9 *12*	4087.9 *13*
3450.4 *11*	3733.0 *22*	3875.7 *16*	4113.9 *22*
3468.9 *15*	3741.3 *11*	3885.6 *11*	4125.3 *14*
3549.1 *15*	3749.3 *13*	3937.0 *13*	4179.1 *15*
3576.7 *14*	3758.5 *10*	3972.9 *14*	4179.8 *13*
3680.1 *13*	3782.1 *11*	4033.5 *14*	
3688.6 *12*	3791.3 *13*	4066.2 *13*	
3699.6 *13*	3821.1 *11*	4081.0 *13*	

† Unless noted otherwise, from 1974Ri03 based on Eγ values assumed to be primary transitions and S(n)=9219.4 keV *5*. However, compared to the adopted values for the corresponding levels, serious discrepancies with the results of 1974Ri03 are present. The uncertainties for the level energies given by 1974Ri03 are too small even if one takes into account the more recent value of S(n)=9219.74 keV.

‡ From 1982Co15. Based on γ energies. No uncertainties given by the authors.

From Adopted Levels.

γ(^{102}Ru)

1974Ri03 report Eγ and Γ values for 63 transitions between 5022.1 and 9219.6 keV, which are assumed to be primary transitions. See levels from ^{101}Ru(n,γ) for E(level) deduced from these Eγ. See 1974Ri03 for Γ values.

E$_\gamma$†	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	E$_\gamma$†	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
415.3	1521.7	3$^+$	1106.3	4$^+$	766.8	1873.1	6$^+$	1106.3	4$^+$
418.7	1521.7	3$^+$	1103.0	2$^+$	940.5	2043.6	3$^-$	1103.0	2$^+$
456.4	2037.1	2$^+$	1580.6	2$^+$	1046.7	1521.7	3$^+$	475.1	2$^+$
463.1	2043.6	3$^-$	1580.6	2$^+$	1103.2	1103.0	2$^+$	0	0$^+$
468.7	943.8	0$^+$	475.1	2$^+$	1105.6	1580.6	2$^+$	475.1	2$^+$
475.1	475.1	2$^+$	0	0$^+$	1113.0	2219.3	5$^+$	1106.3	4$^+$
548.4	2592.0	(4)	2043.6	3$^-$	1158.2	2261.2	2$^-$	1103.0	2$^+$
627.9	1103.0	2$^+$	475.1	2$^+$	1197.2‡	2303.5	(4)	1106.3	4$^+$
631.2	1106.3	4$^+$	475.1	2$^+$	1264.5	2370.8		1106.3	4$^+$
636.8	1580.6	2$^+$	943.8	0$^+$	1323.9	1798.6	4$^+$	475.1	2$^+$
680.7	2261.2	2$^-$	1580.6	2$^+$	1361.3	1836.4	0$^+$	475.1	2$^+$
692.2	1798.6	4$^+$	1106.3	4$^+$	1562.1	2037.1	2$^+$	475.1	2$^+$
695.6	1798.6	4$^+$	1103.0	2$^+$	1568.5	2043.6	3$^-$	475.1	2$^+$
697.5	2219.3	5$^+$	1521.7	3$^+$	1580.2	1580.6	2$^+$	0	0$^+$
739.5	2261.2	2$^-$	1521.7	3$^+$					

† From 1982Co15. No Iγ given by the authors.

‡ Placement of transition in the level scheme is uncertain.

Legend

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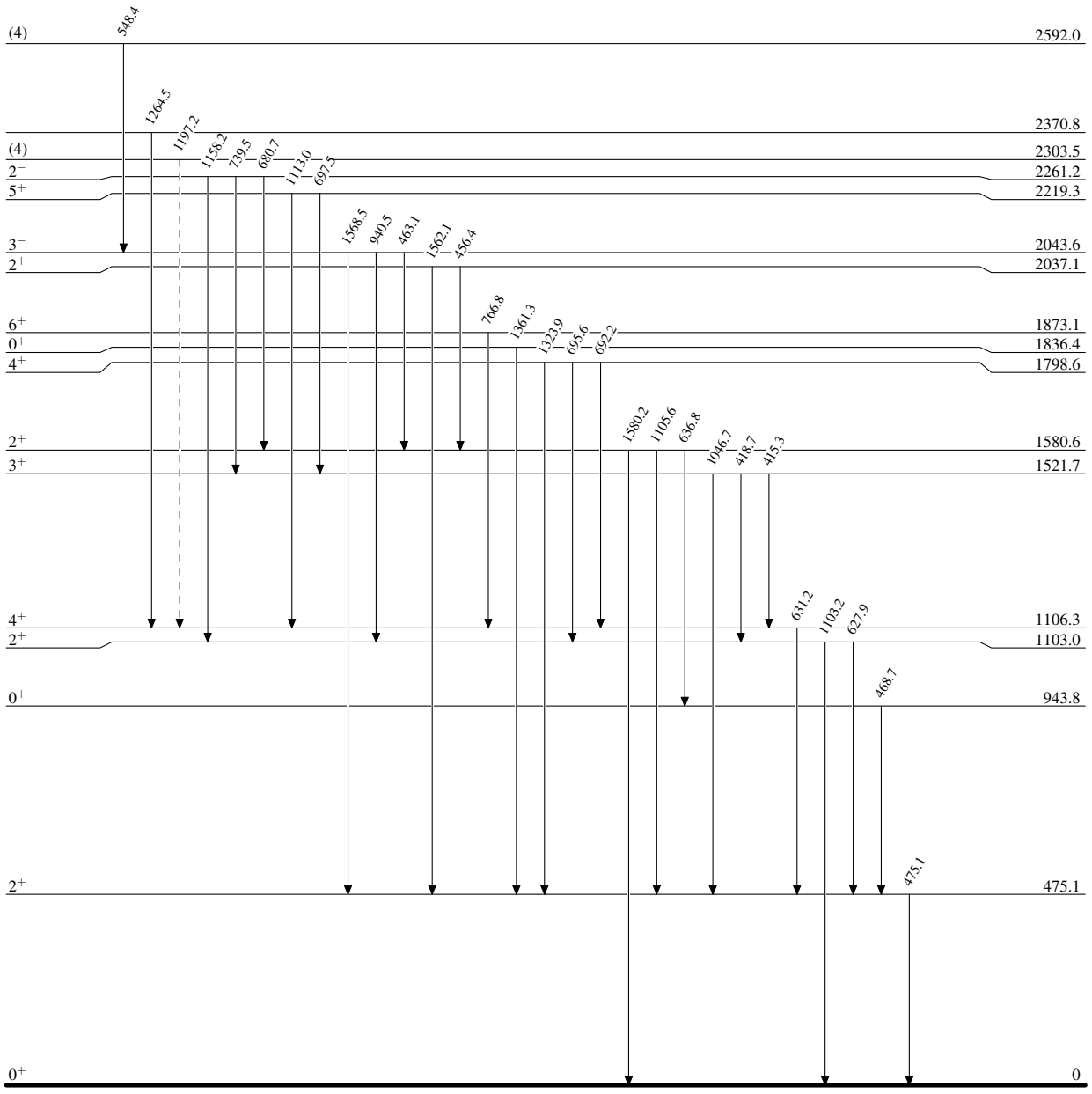
Level Scheme

γ Decay (Uncertain)



$^{102}_{44}Ru_{58}$