^{101}Ru(p,nγ) 1984Ka23

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	ENSDF	1-Jul-2006

E(p)=3.2, 6.5 MeV.
Enriched target ≈ 97% *20* mg/cm^2.
Measured: γ, γγ, γ(E(p)).

^{101}Rh Levels

E(level)	Jπ†	Comments
0	1/2$^-$	
157.3	9/2$^+$	
181.8	7/2$^+$	
305.4	3/2$^-$	
355.3	5/2$^-$	
478.0	5/2$^+$	Jπ: excit and γ(θ) for the 296γ and 321γ are consistent with J=5/2.
748.0	7/2$^+$	Jπ: excit for the 270γ, 566γ and 321γ are consistent with J=5/2.
851.5	7/2$^-$,9/2$^-$	Jπ: see Adopted Levels.
893.3	13/2$^+$	Jπ: γ(θ) for the 736γ is consistent with ΔJ=2.
899.4	9/2$^-$	
905.8	5/2$^+$,7/2$^+$	
978.8	(5/2$^+$,7/2$^+$)	Jπ: excit for the 231γ, 797γ and 821γ favors J=5/2 or 7/2.
996.4	(3/2$^-$,5/2$^-$)	
1035.7	(5/2$^+$)	Jπ: excit for the 854γ suggests J=5/2.
1058.0	(3/2$^-$)	Jπ: excit for the 703γ and 753γ favors J=3/2.
1320.6	(3/2)	Jπ: excit for the 965γ favors J=3/2.
1359.0	(5/2$^+$,7/2$^+$)	Jπ: excit and γ(θ) for the 1177γ and 1202γ favors J=5/2 or 7/2.
1383.4	(3/2)	Jπ: excit for the 1028γ suggests J=3/2.
1470.6	(5/2$^+$)	Jπ: excit for the 993γ and 1289γ favors J=5/2.
1604.0		
1696.0		
1777.9		
1789.0		
1911.8		

† From Adopted Levels, Values from this data set are given in comments.

γ(^{101}Rh)

ΔE: Uncertainty not given by the authors, estimated to be 0.2 keV by comparison with known energies.

Eγ	Iγ	Ei(level)	Jiπ	Ef	Jfπ	Comments
24.5 *2*		181.8	7/2$^+$	157.3	9/2$^+$	
230.8 *2*	2.8 *1*	978.8	(5/2$^+$,7/2$^+$)	748.0	7/2$^+$	
269.7 *2*	9.9 *2*	748.0	7/2$^+$	478.0	5/2$^+$	
296.2 *2*	76.7 *20*	478.0	5/2$^+$	181.8	7/2$^+$	
305.4 *2*	61.1 *20*	305.4	3/2$^-$	0	1/2$^-$	
320.7 *2*	2.8 *1*	478.0	5/2$^+$	157.3	9/2$^+$	
355.3 *2*	100	355.3	5/2$^-$	0	1/2$^-$	
427.7 *2*	2.10 *5*	905.8	5/2$^+$,7/2$^+$	478.0	5/2$^+$	
453.6 *2*	3.0 *2*	1359.0	(5/2$^+$,7/2$^+$)	905.8	5/2$^+$,7/2$^+$	Iγ: For closely spaced doublet.
496.2 *2*	27.1 *5*	851.5	7/2$^-$,9/2$^-$	355.3	5/2$^-$	

Continued on next page (footnotes at end of table)

^{101}Ru(p,nγ) 1984Ka23 (continued)

γ(^{101}Rh) (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Comments
544.1 *2*	<147‡	899.4	9/2$^-$	355.3	5/2$^-$	
545.1# *8*	<147‡	851.5	7/2$^-$,9/2$^-$	305.4	3/2$^-$	
557.2 *2*		1035.7	(5/2$^+$)	478.0	5/2$^+$	I_γ: Iγ=weak.
566.1 *2*	7.7 *2*	748.0	7/2$^+$	181.8	7/2$^+$	
590.7 *2*	38.2 *8*	748.0	7/2$^+$	157.3	9/2$^+$	
641.1 *2*		996.4	(3/2$^-$,5/2$^-$)	355.3	5/2$^-$	I_γ: Iγ=weak.
691.0 *2*		996.4	(3/2$^-$,5/2$^-$)	305.4	3/2$^-$	
702.8 *2*	7.5 *2*	1058.0	(3/2$^-$)	355.3	5/2$^-$	
724.0 *2*	24.3 *8*	905.8	5/2$^+$,7/2$^+$	181.8	7/2$^+$	
736.0 *2*	4.0 *1*	893.3	13/2$^+$	157.3	9/2$^+$	
748.6 *2*	8.2 *3*	905.8	5/2$^+$,7/2$^+$	157.3	9/2$^+$	
752.6 *2*	5.3 *2*	1058.0	(3/2$^-$)	305.4	3/2$^-$	
796.7 *2*	9.0 *3*	978.8	(5/2$^+$,7/2$^+$)	181.8	7/2$^+$	
821.1 *2*	3.4 *1*	978.8	(5/2$^+$,7/2$^+$)	157.3	9/2$^+$	
853.9 *8*	17.9 *4*	1035.7	(5/2$^+$)	181.8	7/2$^+$	
965.3 *2*	6.7 *2*	1320.6	(3/2)	355.3	5/2$^-$	
992.6 *2*	3.1 *1*	1470.6	(5/2$^+$)	478.0	5/2$^+$	
1014.0 *8*	37.7 *10*	1320.6	(3/2)	305.4	3/2$^-$	I_γ: For closely spaced doublet.
1028.1 *2*	7.4 *3*	1383.4	(3/2)	355.3	5/2$^-$	
1126.0		1604.0		478.0	5/2$^+$	
1164.0		1911.8		748.0	7/2$^+$	
1177.2 *2*	1.90 *8*	1359.0	(5/2$^+$,7/2$^+$)	181.8	7/2$^+$	
1201.7 *2*	6.3 *2*	1359.0	(5/2$^+$,7/2$^+$)	157.3	9/2$^+$	
1218.0		1696.0		478.0	5/2$^+$	
1288.8 *2*	7.5 *3*	1470.6	(5/2$^+$)	181.8	7/2$^+$	
1311.0		1789.0		478.0	5/2$^+$	
1422.6		1777.9		355.3	5/2$^-$	
1433.8		1911.8		478.0	5/2$^+$	

† Uncertainty not given by the authors, estimated to be 0.2 keV by comparison with known energies.
‡ Iγ= 122 *25* for the 544.1+545.1 doublet.
# Could be a misprint since from the level energy difference one expects Eγ=851.5-305.4=546.1.

^{101}Ru(p,nγ) 1984Ka23

Level Scheme

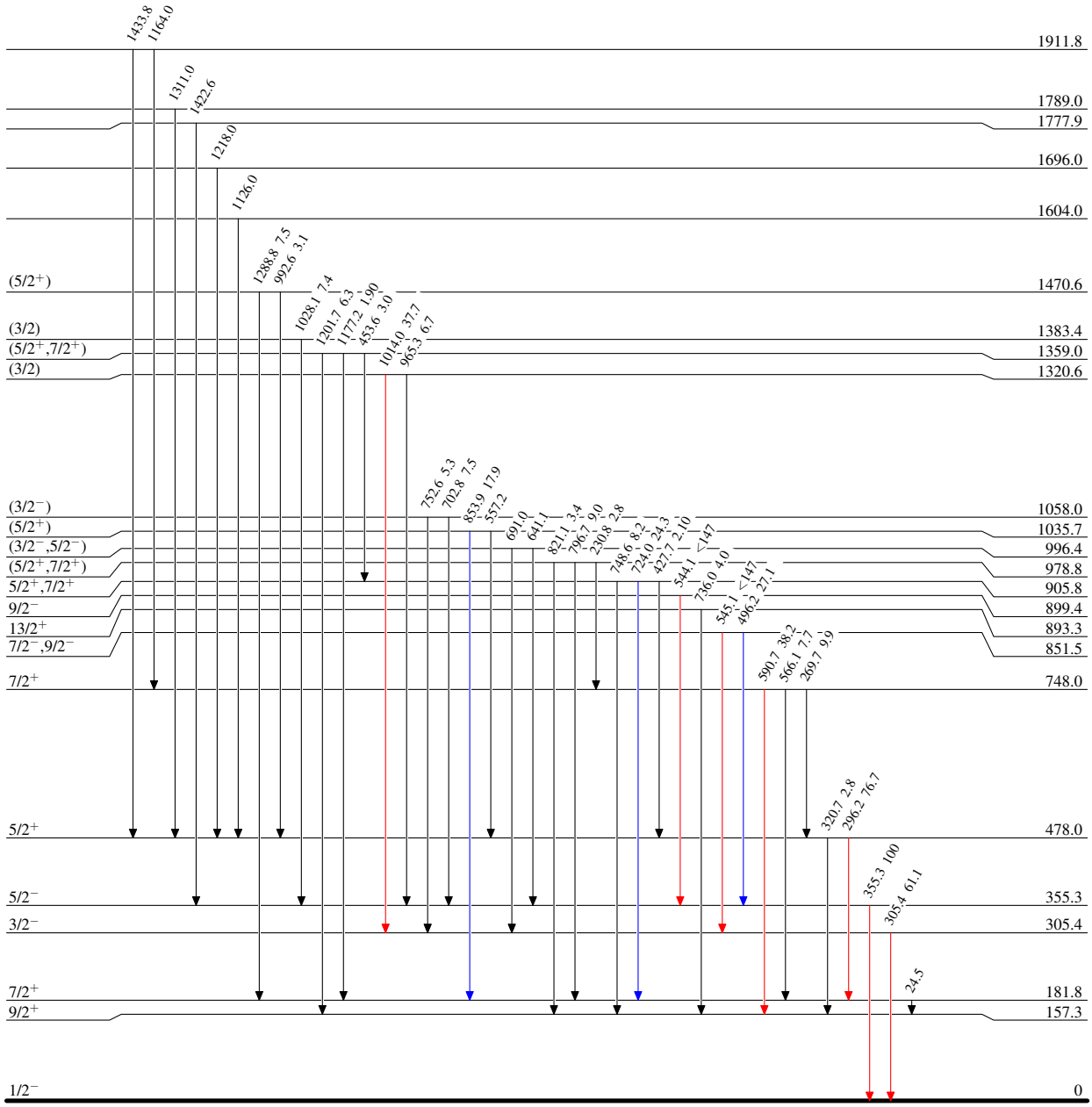
Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{101}_{45}Rh_{56}$