Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. K. Basu, E. A. Mccutchan	NDS 165, 1 (2020)	1-Mar-2020

Q(β^-)=−1.32×10^4 *SY*; S(n)=14.7×10^3 *SY*; S(p)=4778 *5*; Q(α)=−3198 *5* 2017Wa10
S(2n)=26690 (syst) *300*; S(2p)=6775 *5*; Q(εp)=2842 (syst) *5*.
ΔQ(β^-)=300; ΔS(n)=300.

^{90}Ru Levels

Cross Reference (XREF) Flags

- A ^{90}Rh ε decay (29 ms)
- B ^{90}Rh ε decay (0.56 s)
- C ^{58}Ni(^{36}Ar,2p2nγ)
- D ^{58}Ni(^{40}Ca,2$\alpha\gamma$)

E(level)†	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0‡	0$^+$	11.7 s *9*	ABCD	%ε+%β^+=100 T$_{1/2}$: from 2004De40. Others: 13 s *5* (1991Zh29); 11 s *3* (1994Zh26).
738.10‡ *10*	2$^+$		BCD	J$^\pi$: E2 738γ to 0$^+$; band assignment.
1638.31‡ *22*	4$^+$		BCD	J$^\pi$: E2 901γ to 2$^+$; band assignment.
2524.0‡ *3*	6$^+$		B D	J$^\pi$: E2 886γ to 4$^+$; band assignment.
2602.0# *3*	(5$^-$)		D	J$^\pi$: D 964γ to 4$^+$; systematics of negative parity bands.
2802.2 *3*	(6$^+$)		B	J$^\pi$: from ε feeding from (6,7,8) parent, 1164γ to 4$^+$, and comparison to shell model calculations in 2019Pa16.
2954.9 *3*	(6$^+$)		B	J$^\pi$: from ε feeding from (6,7,8) parent, 1164γ to 4$^+$, and comparison to shell model calculations in 2019Pa16.
3036.3‡ *4*	8$^+$		D	J$^\pi$: E2 512γ to 6$^+$; band assignment.
3299.9# *3*	(7$^-$)		D	J$^\pi$: E2 698γ to (5$^-$); band assignment.
3982.6‡ *4*	10$^+$		CD	J$^\pi$: E2 946γ to 8$^+$; band assignment.
4197.4# *4*	(9$^-$)		D	J$^\pi$: E2 898γ to (7$^-$); band assignment.
4958.3‡ *5*	12$^+$		CD	J$^\pi$: E2 976γ to 10$^+$; band assignment.
4979.7# *4*	(11$^-$)		D	J$^\pi$: E2 783γ to (9$^-$); band assignment.
5310.7? *5*			D	
5731.3‡ *6*	14$^+$		CD	J$^\pi$: E2 773γ to 12$^+$; band assignment.
5815.9 *6*	(13)		D	J$^\pi$: D 858γ to 12$^+$.
5827.1# *5*	(13$^-$)		D	J$^\pi$: E2 847γ to (11$^-$); band assignment.
6098.5 *6*	(15)		CD	J$^\pi$: E2 283γ to (13); D 367γ to 14$^+$.
6143.3 *7*			D	
6260.7 *7*			D	
6389.0 *7*	(16)		CD	J$^\pi$: D 291γ to (15).
6748.9# *6*	(15$^-$)		D	J$^\pi$: E2 922γ to (13$^-$); band assignment.
7417.1 *7*	(18)		D	J$^\pi$: E2 1028γ to (16).
7654.9# *7*	(17$^-$)		D	J$^\pi$: E2 906γ to (15$^-$); band assignment.
7674.5 *7*			D	
8023.1 *7*			D	
8105.9? *7*			D	
8376.4# *7*	(19$^-$)		D	J$^\pi$: (E2) 722γ to (17$^-$); band assignment.
8622.3 *8*	(20$^+$)		D	J$^\pi$: E2 1205γ to (18$^+$); band assignment.
9476.7# *8*	(21$^-$)		D	J$^\pi$: (E2) 1100γ to (19$^-$); band assignment.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{90}Ru Levels (continued)

† From a least-squares fit to γ-ray energies, by evaluators.
‡ Band(A): Yrast sequence.
# Band(B): Band based on (5⁻).

γ(^{90}Ru)

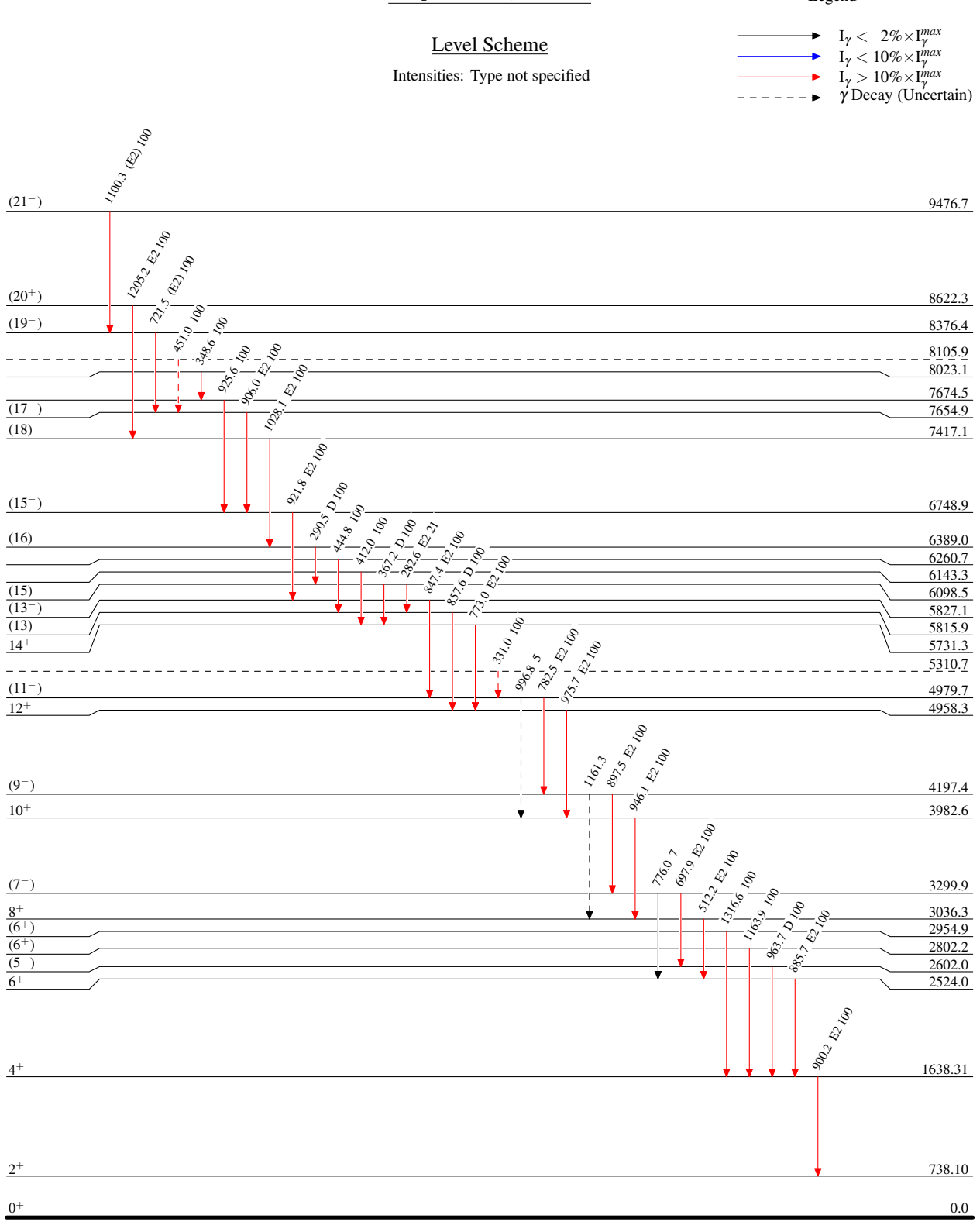
E_i(level)	J_i^π	E_γ†	I_γ†	E_f	J_f^π	Mult.‡
738.10	2⁺	738.1# *1*	100#	0.0	0⁺	E2
1638.31	4⁺	900.2# *2*	100#	738.10	2⁺	E2
2524.0	6⁺	885.7# *2*	100#	1638.31	4⁺	E2
2602.0	(5⁻)	963.7 *3*	100	1638.31	4⁺	D
2802.2	(6⁺)	1163.9# *2*	100#	1638.31	4⁺	
2954.9	(6⁺)	1316.6# *2*	100#	1638.31	4⁺	
3036.3	8⁺	512.2 *3*	100	2524.0	6⁺	E2
3299.9	(7⁻)	697.9 *3*	100 *13*	2602.0	(5⁻)	E2
		776.0 *3*	7 *4*	2524.0	6⁺	
3982.6	10⁺	946.1 *3*	100	3036.3	8⁺	E2
4197.4	(9⁻)	897.5 *3*	100	3299.9	(7⁻)	E2
		1161.3@ *3*		3036.3	8⁺	
4958.3	12⁺	975.7 *3*	100	3982.6	10⁺	E2
4979.7	(11⁻)	782.5 *3*	100 *15*	4197.4	(9⁻)	E2
		996.8@ *3*	5 *3*	3982.6	10⁺	
5310.7?		331.0@ *3*	100	4979.7	(11⁻)	
5731.3	14⁺	773.0 *3*	100	4958.3	12⁺	E2
5815.9	(13)	857.6 *3*	100	4958.3	12⁺	D
5827.1	(13⁻)	847.4 *3*	100	4979.7	(11⁻)	E2
6098.5	(15)	282.6 *3*	21 *3*	5815.9	(13)	E2
		367.2 *3*	100 *11*	5731.3	14⁺	D
6143.3		412.0 *3*	100	5731.3	14⁺	
6260.7		444.8 *3*	100	5815.9	(13)	
6389.0	(16)	290.5 *3*	100	6098.5	(15)	D
6748.9	(15⁻)	921.8 *3*	100	5827.1	(13⁻)	E2
7417.1	(18)	1028.1 *3*	100	6389.0	(16)	E2
7654.9	(17⁻)	906.0 *3*	100	6748.9	(15⁻)	E2
7674.5		925.6 *3*	100	6748.9	(15⁻)	
8023.1		348.6 *3*	100	7674.5		
8105.9?		451.0@ *3*	100	7654.9	(17⁻)	
8376.4	(19⁻)	721.5 *3*	100	7654.9	(17⁻)	(E2)
8622.3	(20⁺)	1205.2 *3*	100	7417.1	(18)	E2
9476.7	(21⁻)	1100.3 *3*	100	8376.4	(19⁻)	(E2)

† From ^{58}Ni(^{40}Ca,2αγ), except where noted.
‡ From angular distribution and DCO data in ^{58}Ni(^{40}Ca,2αγ). Stretched quadrupole transitions are assumed to be E2 in character.
# From ^{90}Rh ε decay (0.56 s).
@ Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

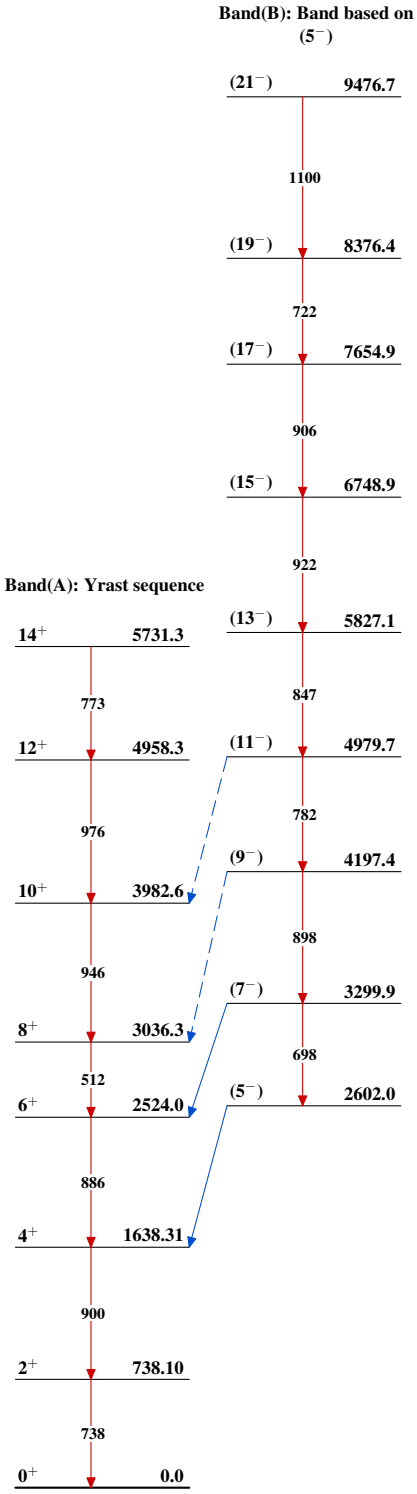
Level Scheme

Intensities: Type not specified



$^{90}_{44}Ru_{46}$

Adopted Levels, Gammas



$^{90}_{44}Ru_{46}$