^{48}Ti(^{32}S,2pnγ) 1990Jo07

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	30-Sep-2020

1990Jo07: E=106 MeV. Measured γ, $\gamma\gamma$, $T_{1/2}$(level) by DSAM, $\gamma\gamma(\theta)$ (DCO).
Other: 1982ZoZZ: ^{66}Zn(^{14}N,2npγ) E=52 MeV; measured $\gamma(\theta)$.

^{77}Kr Levels

E(level)[†]	J$^{\pi}$[‡]	$T_{1/2}$[#]	Comments
0.0[&]	5/2$^+$		
66.45[b] *10*	3/2$^-$		
150.36[a] *9*	7/2$^+$		
245.49[c] *12*	5/2$^-$		
279.14[&] *9*	9/2$^+$		
499.85[b] *12*	7/2$^-$		
784.75[a] *12*	11/2$^+$	1.19 ps *24*	
799.93[c] *13*	9/2$^-$		
1003.24[&] *13*	13/2$^+$	1.8 ps *5*	
1177.64[b] *14*	11/2$^-$	1.07 ps *21*	
1569.74[c] *16*	13/2$^-$	0.60 ps *12*	
1659.57[a] *15*	15/2$^+$	0.51 ps *10*	
1917.94[&] *15*	17/2$^+$	0.39 ps *8*	
2063.66[b] *17*	15/2$^-$	0.58 ps *12*	
2520.63[c] *18*	17/2$^-$	0.35 ps *7*	
2707.2[a] *3*	19/2$^+$	0.30 ps *9*	
2989.40[&] *18*	21/2$^+$	0.16 ps *4*	
3112.7[b] *3*	19/2$^-$	0.35 ps *7*	
3604.0[c] *4*	21/2$^-$	0.33[@] ps *6*	
3769.8[a] *3*	23/2$^+$	0.21 ps *4*	
4151.8[&] *2*	25/2$^+$	0.111 ps *21*	
4302.2[b] *3*	23/2$^-$	0.076 ps *14*	E(level): level is not confirmed by 1997Sy01 in (^{29}Si,2p2$\alpha\gamma$), thus not included in Adopted Levels.
4747.0[c] *11*	(25/2$^-$)		
4812.9[a] *4*	27/2$^+$	0.17 ps *4*	
5375.0[&] *4*	29/2$^+$	0.16 ps *4*	
5619.3[b] *4*	(27/2$^-$)	0.14[@] ps *3*	E(level): level is not included in Adopted Levels since 1317γ has a revised placement based on the work of 1997Sy01 in (^{29}Si,2α2pγ). $T_{1/2}$: assigned to 6670 level in Adopted Levels based on reassignment of 1317γ in 1997Sy01.
6084.6[a] *5*	31/2$^+$	0.090[@] ps *21*	
6708.0[&] *5*	33/2$^+$	0.055 ps *14*	
7643.6[a] *11*	35/2$^+$		
8215.4[&] *6*	37/2$^+$	0.062[@] ps *14*	
9912.2[&] *6*	41/2$^+$		
11759.3[&] *7*	45/2$^+$		E(level): this level corresponds to 11747.5 in the Adopted Levels.

[†] From least-squares fit to Eγ data.
[‡] From 1990Jo07 based on $\gamma(\theta)$ data, multipolarity assignments, and band associations. The assignments are essentially the same in Adopted Levels, except that parentheses have been added in the Adopted Levels for many levels, when strong arguments seem

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^{48}Ti(^{32}S,2pnγ) 1990Jo07 (continued)

^{77}Kr Levels (continued)

lacking.

[#] Values are primarily from RDDS (1984Wo10) and DSAM (1990Jo07).

[@] Half-lives not corrected for side feeding.

[&] Band(A): π=+,α=+1/2. Q(transition)=1.1 to 2.9 implies β_2=0.20 to 0.36 for the two signature partners.

[a] Band(a): π=+,α=−1/2.

[b] Band(B): π=−,α=−1/2. Q(transition)=1.4 to 3.7 implies β_2=0.23 to 0.45 for the two signature partners.

[c] Band(b): π=−,α=+1/2.

γ(^{77}Kr)

E_γ[‡]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	δ[#]	Comments
66.5 *1*	22 *11*	66.45	3/2−	0.0	5/2+			
128.8 *1*	180 *14*	279.14	9/2+	150.36	7/2+	D		DCO=0.31 *1*
150.4 *1*	181 *18*	150.36	7/2+	0.0	5/2+	D+Q	−0.16 *10*	DCO=0.29 *1* A_2=−0.360 *20*; A_4=0.00 *2* (1982ZoZZ)
179.1 *1*	133 *7*	245.49	5/2−	66.45	3/2−	D(+Q)	−0.09 *9*	DCO=0.34 *1* A_2=−0.243 *24*; A_4=−0.02 *3* (1982ZoZZ)
218.6 *3*	17 *2*	1003.24	13/2+	784.75	11/2+	D		DCO=0.44 *3*
245.0 *3*	10 *5*	245.49	5/2−	0.0	5/2+			
254.4 *1*	84 *3*	499.85	7/2−	245.49	5/2−	D		DCO=0.29 *1*
258.3 *3*	6 *1*	1917.94	17/2+	1659.57	15/2+	D		DCO=0.44 *3*
279.1 *1*	27 *5*	279.14	9/2+	0.0	5/2+	Q		DCO=0.83 *4*
282 *1*	3 *1*	2989.40	21/2+	2707.2	19/2+	D		DCO=0.32 *17*
300.2 *1*	29 *1*	799.93	9/2−	499.85	7/2−	D		DCO=0.34 *2*
377.8 *1*	22 *1*	1177.64	11/2−	799.93	9/2−	D		DCO=0.30 *2*
382.4 *3*	3 *1*	4151.8	25/2+	3769.8	23/2+	D		DCO=0.32 *9*
392.4 *3*	14 *1*	1569.74	13/2−	1177.64	11/2−	D		DCO=0.38 *2*
433.4 *1*	42 *6*	499.85	7/2−	66.45	3/2−	Q		DCO=0.91 *4* A_2=+0.265 *21*; A_4=+0.044 *18* (1982ZoZZ)
456.7 *3*	6 *1*	2520.63	17/2−	2063.66	15/2−	D		DCO=0.43 *5*
490[@] *1*		3604.0	21/2−	3112.7	19/2−	D		DCO=0.34 *1*
494 *1*	11 *1*	2063.66	15/2−	1569.74	13/2−	D		DCO=0.22 *4*
505.6 *1*	35 *2*	784.75	11/2+	279.14	9/2+	D		DCO=0.28 *5*
554.4 *1*	33 *2*	799.93	9/2−	245.49	5/2−	Q		DCO=1.00 *4* A_2=+0.27 *3*; A_4=−0.07 *3* (1982ZoZZ)
562 *1*	7 *4*	5375.0	29/2+	4812.9	27/2+	D		DCO=0.35 *14*
592.0 *3*	3 *2*	3112.7	19/2−	2520.63	17/2−	D		DCO=0.30 *10*
623 *1*	6 *3*	6708.0	33/2+	6084.6	31/2+			
634.5 *3*	15 *1*	784.75	11/2+	150.36	7/2+	E2		DCO=0.86 *20*
657 *1*	22 *1*	1659.57	15/2+	1003.24	13/2+	D		DCO=0.16 *10*
661 *1*	9 *1*	4812.9	27/2+	4151.8	25/2+	D		DCO=0.46 *9*
677.7 *1*	26 *1*	1177.64	11/2−	499.85	7/2−	E2		DCO=1.06 *5* A_2=+0.31 *3*; A_4=−0.06 *3* (1982ZoZZ)
698 *1*	0.8 *3*	4302.2	23/2−	3604.0	21/2−			
709 *1*	4 *2*	6084.6	31/2+	5375.0	29/2+			
724.1 *1*	100	1003.24	13/2+	279.14	9/2+	E2		DCO=1.14 *6*
769.8 *1*	40 *1*	1569.74	13/2−	799.93	9/2−	E2		DCO=1.01 *6*
780.2 *3*	17 *2*	3769.8	23/2+	2989.40	21/2+	D		DCO=0.33 *8*
789.7 *3*	13 *2*	2707.2	19/2+	1917.94	17/2+	D		DCO=0.59 *9*
874.8 *1*	24 *2*	1659.57	15/2+	784.75	11/2+	(E2)		DCO=0.70 *20*
886.0 *1*	28 *2*	2063.66	15/2−	1177.64	11/2−	E2		DCO=1.13 *8*
914.7 *1*	80 *4*	1917.94	17/2+	1003.24	13/2+	E2		DCO=1.09 *5*
950.9 *1*	29 *2*	2520.63	17/2−	1569.74	13/2−	Q		DCO=1.03 *4*
1043.1 *3*	21 *13*	4812.9	27/2+	3769.8	23/2+	(E2)		DCO=0.69 *22*

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^{48}Ti(^{32}S,2pnγ) 1990Jo07 (continued)

$\gamma(^{77}Kr)$ (continued)

E_γ[‡]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	Comments
1048 *1*	9 *2*	2707.2	$19/2^+$	1659.57	$15/2^+$		
1049.1 *3*	14 *1*	3112.7	$19/2^-$	2063.66	$15/2^-$	E2	DCO=0.92 *7*
1063.0 *3*	18 *4*	3769.8	$23/2^+$	2707.2	$19/2^+$		
1071.4 *1*	54 *4*	2989.40	$21/2^+$	1917.94	$17/2^+$	E2	DCO=0.90 *11*
1083.3 *3*	19 *2*	3604.0	$21/2^-$	2520.63	$17/2^-$	E2	DCO=0.96 *15*
1143 *1*	8 *3*	4747.0	$(25/2^-)$	3604.0	$21/2^-$		
1162.4 *1*	33 *1*	4151.8	$25/2^+$	2989.40	$21/2^+$	E2	DCO=1.12 *5*
1189.5 *1*	16 *2*	4302.2	$23/2^-$	3112.7	$19/2^-$		DCO=0.99 *16*
1223.2 *3*	14 *4*	5375.0	$29/2^+$	4151.8	$25/2^+$	E2	DCO=1.05 *14*
1271.7 *3*	16 *2*	6084.6	$31/2^+$	4812.9	$27/2^+$	E2	DCO=1.05 *17*
1317.1 *3*	11 *2*	5619.3	$(27/2^-)$	4302.2	$23/2^-$		
1333.0 *3*	11.0 *19*	6708.0	$33/2^+$	5375.0	$29/2^+$	(E2)	DCO=0.87 *27*
1507.4 *3*	11 *4*	8215.4	$37/2^+$	6708.0	$33/2^+$	E2	DCO=1.02 *15*
1559 *1*	9 *4*	7643.6	$35/2^+$	6084.6	$31/2^+$	(Q)	DCO=0.90 *20*
1696.7 *3*	8 *3*	9912.2	$41/2^+$	8215.4	$37/2^+$	(Q)	DCO=0.97 *24*
1847.1 *3*	5 *2*	11759.3	$45/2^+$	9912.2	$41/2^+$	Q	DCO=1.09 *28*

[†] From $\gamma(\theta)$ and $\gamma\gamma(\theta)$(DCO). From comparison with RUL for transitions from states with measured lifetime and from $\gamma(\theta)$ data for stretched E2 transitions.

[‡] Uncertainties are not given by 1990Jo07. The evaluator has assigned the following: 0.1 keV for Iγ>20, 0.3 for Iγ<20 and 1 keV for Eγ given to a nearest keV.

[#] From $\gamma(\theta)$ data of 1982ZoZZ.

[@] Placement of transition in the level scheme is uncertain.

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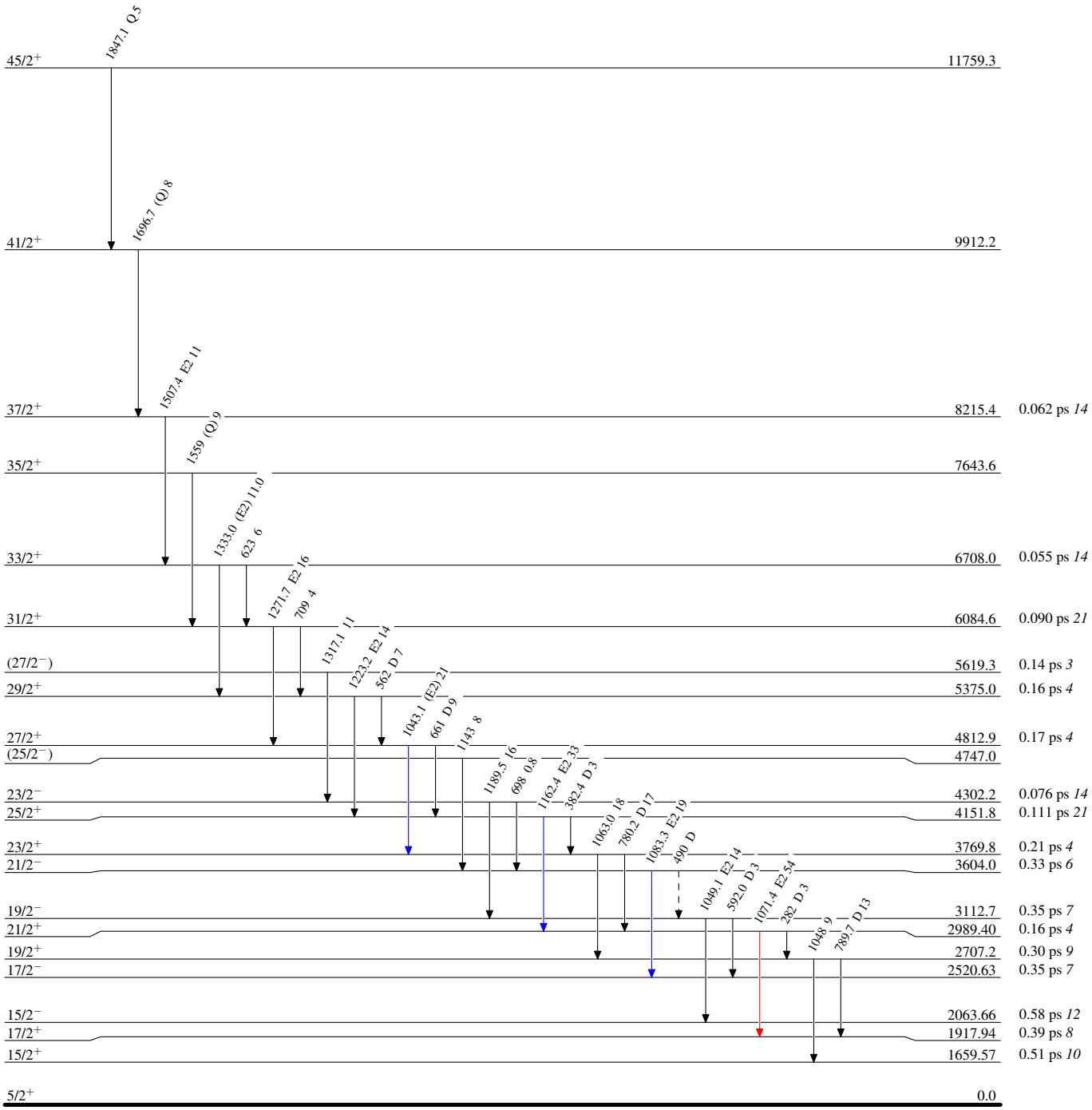
Level Scheme

Intensities: Relative I_γ

Legend

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

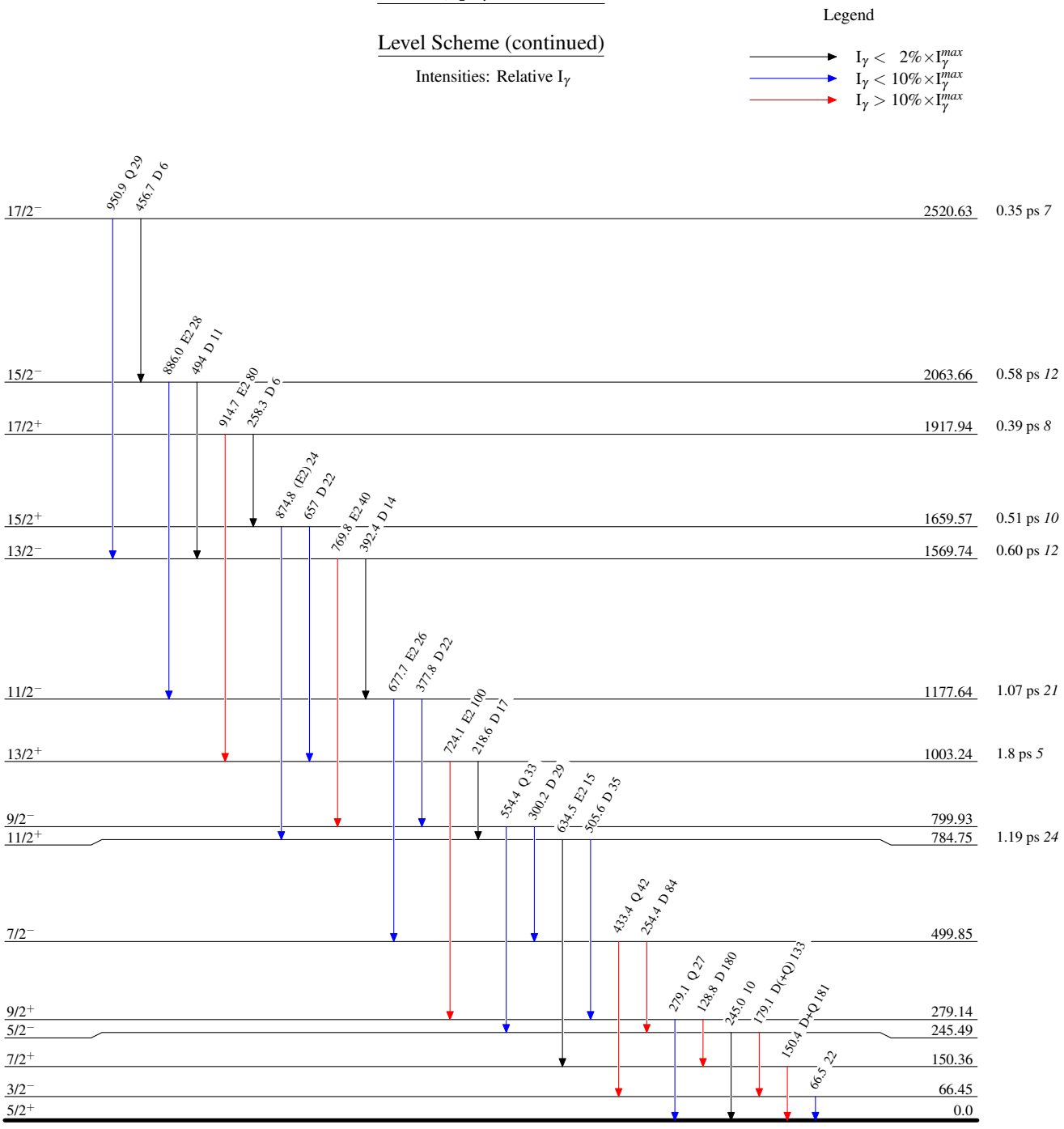


$^{77}_{36}Kr_{41}$

^{48}Ti(^{32}S,2pnγ) 1990Jo07

Level Scheme (continued)

Intensities: Relative I_γ



$^{77}_{36}Kr_{41}$

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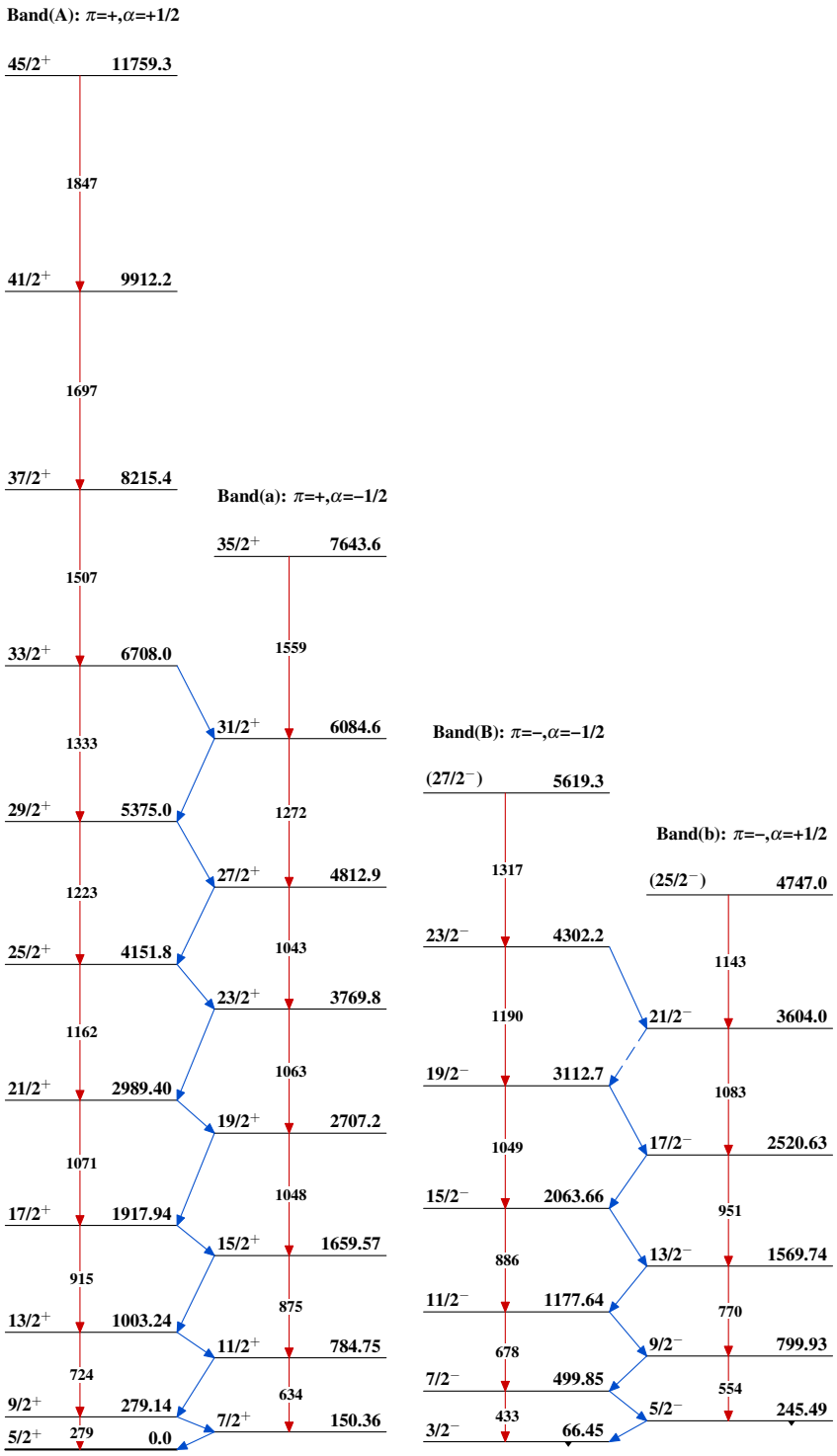

$^{77}_{36}Kr_{41}$