

⁵¹V(⁸²Se,4nγ), ¹⁰⁰Mo(³⁴S,p4nγ) 1992He03,2000Wa28

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Janos Timar and Zoltan Elekes, Balraj Singh		NDS 121, 143 (2014)	31-May-2014

Includes ⁹⁸Mo(³⁶S,p4nγ) from 1985Sm07.

1992He03: ⁵¹V(⁸²Se,4nγ) E=67, 290 MeV; Ge γ, γγ-coin, γγ(θ).

2000Wa28: ¹⁰⁰Mo(³⁴S,p4nγ), E=155 MeV. Measured Eγ and γγ using EUROBALL-2 spectrometer. Details of γ-ray data are not given in this paper.

1985Sm07: ⁹⁸Mo(³⁶S,p4nγ) E=155 MeV; Ge, γγ-coin, γγ(θ).

¹²⁹La Levels

Level scheme is mainly from 1992He03. Several higher spin levels are from 2000Wa28. J^π assignment on the basis of γ multiplicities deduced from DCO ratios. Configurations on the basis of CSM analysis, systematics of neighboring nuclei and Total Routhian Surface calculations.

E(level) [#]	J ^π †	T _{1/2} ‡	E(level) [#]	J ^π †	E(level) [#]	J ^π †
0.0 ^b	3/2 ⁺		2787.9 9	(23/2 ⁺)	5473.0 ^{&} 8	39/2 ⁺
67.5 ^c 3	5/2 ⁺		2788.9+x ^d 14	(25/2 ⁺)	5503.8 ^g 12	(37/2 ⁺)
172.1 [@] 4	11/2 ⁻	0.56 s 5	2821.2 ^f 9	(23/2 ⁺)	5557.9+x ^e 15	(39/2 ⁺)
247.6 ^b 3	7/2 ⁺		2839.0 ^b 7	23/2 ⁺	5931.0 ^f 12	(39/2 ⁺)
440.9 [@] 4	15/2 ⁻	90 ps 4	2907.0 ^a 6	25/2 ⁺	6060.5 ^a 14	41/2 ⁺
445.1 ^c 3	9/2 ⁺		3014.8 ^{&} 6	27/2 ⁺	6086.1+x ^d 16	(41/2 ⁺)
694.7 ^b 4	11/2 ⁺		3065.6+x ^e 14	(27/2 ⁺)	6335.0 ^g 13	(41/2 ⁺)
915.0 [@] 5	19/2 ⁻	6.0 ps 9	3093.7 ^g 9	(25/2 ⁺)	6484.3 ^{&} 9	43/2 ⁺
1019.8 ^c 4	13/2 ⁺		3251.1 [@] 6	31/2 ⁻	6512.8 [@] 11	43/2 ⁻
1313.7 ^b 4	15/2 ⁺		3388.3+x ^d 15	(29/2 ⁺)	6632.2+x ^e 16	(43/2 ⁺)
1556.0 [@] 5	23/2 ⁻		3418.2 ^f 10	(27/2 ⁺)	6754.0 ^f 13	(43/2 ⁺)
1722.3 7			3473.3 ^a 6	29/2 ⁺	7129.5 ^a 17	45/2 ⁺
1947.9 10			3728.7 ^{&} 6	31/2 ⁺	7561.7 ^{&} 11	47/2 ⁺
1983.0 ^{&} 5	19/2 ⁺		3753.5+x ^e 15	(31/2 ⁺)	7671.8 [@] 15	47/2 ⁻
2068.1 ^b 6	19/2 ⁺		3780.6 ^g 10	(29/2 ⁺)	8238.5 ^a 20	49/2 ⁺
2217.4 ^d 5	(13/2 ⁺)		4153.1+x ^d 15	(33/2 ⁺)	8653.9 ^{&} 12	51/2 ⁺
2239.3 9			4173.9 ^f 10	(31/2 ⁺)	8853.8 [@] 18	51/2 ⁻
2239.3+x ^d 13	(17/2 ⁺)		4195.0 ^a 7	33/2 ⁺	9421.5 ^a 22	53/2 ⁺
2293.9+x ^e 14	(19/2 ⁺)		4264.1 [@] 8	35/2 ⁻	9769.2 ^{&} 14	(55/2 ⁺)
2340.8 [@] 6	27/2 ⁻		4551.7 ^{&} 7	35/2 ⁺	10082.8 [@] 21	55/2 ⁻
2351.7 ^f 9	(19/2 ⁺)		4591.9+x ^e 15	(35/2 ⁺)	10949.2 ^{&} 17	59/2 ⁺
2404.0+x ^d 14	(21/2 ⁺)		4599.0 ^g 11	(33/2 ⁺)	11377.8 [@] 23	59/2 ⁻
2429.0 ^{&} 5	23/2 ⁺		5043.4 ^f 12	(35/2 ⁺)	12193.2 ^{&} 20	63/2 ⁺
2476.0 ^a 7	21/2 ⁺		5054.5+x ^d 15	(37/2 ⁺)	13499.2 ^{&} 22	67/2 ⁺
2567.9 ^g 9	(21/2 ⁺)		5077.5 ^a 9	37/2 ⁺	14917.2 ^{&} 24	71/2 ⁺
2567.9+x ^e 14	(23/2 ⁺)		5358.1 [@] 10	39/2 ⁻	16474 ^{&} 3	75/2 ⁺

† As assigned in 992He03 and 2000Wa28 based on γγ(θ)(DCO) data and band structures. All assignments are given in parentheses in Adopted Levels since strong supporting arguments for the lower levels (or bandheads) are lacking.

‡ From Adopted Levels.

From least-squares fit to the E_γ data.

⁵¹V(⁸²Se,4nγ),¹⁰⁰Mo(³⁴S,p4nγ) **1992He03,2000Wa28 (continued)**

¹²⁹La Levels (continued)

- @ Band(A): $\pi 1/2[550], \alpha = -1/2$.
- & Band(B): $\pi 3/2[422] \otimes \pi h_{11/2}^2, \alpha = -1/2$.
- ^a Band(C): $\pi 3/2[422] \otimes \pi h_{11/2}^2, \alpha = +1/2$.
- ^b Band(D): $\pi(3/2[422]+1/2[420]), \alpha = -1/2$. Strongly coupled one-quasiproton band with admixture of of 3/2[422] and 1/2[420] proton configurations.
- ^c Band(E): $\pi(3/2[422]+1/2[420]), \alpha = +1/2$. Strongly coupled one-quasiproton band with admixture of of 3/2[422] and 1/2[420] proton configurations.
- ^d Band(F): $\pi 1/2[550] \otimes \nu 7/2[523] \otimes \nu 5/2[402], \alpha = +1/2$.
- ^e Band(G): $\pi 1/2[550] \otimes \nu 7/2[523] \otimes \nu 5/2[402], \alpha = -1/2$.
- ^f Band(H): $\pi 1/2[550] \otimes \nu 7/2[523] \otimes \nu 5/2[402], \alpha = -1/2$.
- ^g Band(I): $\pi 1/2[550] \otimes \nu 7/2[523] \otimes \nu 5/2[402], \alpha = +1/2$.

$\gamma(^{129}\text{La})$

DCO data are from [1992He03](#).

E_γ [†]	I_γ [†]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [‡]	α ^{&}	Comments
55.6 3 67.7 3		2293.9+x 67.5	(19/2 ⁺) 5/2 ⁺	2239.3+x 0.0	(17/2 ⁺) 3/2 ⁺	M1	3.32 7	$\alpha(\text{K})=2.84 6; \alpha(\text{L})=0.386 8;$ $\alpha(\text{M})=0.0803 16$ $\alpha(\text{N})=0.0177 4; \alpha(\text{O})=0.00287 6;$ $\alpha(\text{P})=0.000221 5$
104.8 3		172.1	11/2 ⁻	67.5	5/2 ⁺	E3	20.0 4	$\alpha(\text{K})=5.12 9; \alpha(\text{L})=11.54 25;$ $\alpha(\text{M})=2.67 6$ $\alpha(\text{N})=0.566 13; \alpha(\text{O})=0.0782 17;$ $\alpha(\text{P})=0.000256 5$ E _γ : from 1973Le09 . ΔE _γ estimated by the evaluators.
110.1 3	15.2 [#] 10	2404.0+x	(21/2 ⁺)	2293.9+x	(19/2 ⁺)	(M1+E2)	0.871 15	DCO=0.84 8 Additional information 7.
163.9 3	23.3 [#] 16	2567.9+x	(23/2 ⁺)	2404.0+x	(21/2 ⁺)	(M1+E2)	0.276 5	DCO=0.95 5 Additional information 9.
179.9 3	10.6 [#] 8	247.6	7/2 ⁺	67.5	5/2 ⁺	(M1)	0.209	$\alpha(\text{K})=0.178 3; \alpha(\text{L})=0.0239 4;$ $\alpha(\text{M})=0.00497 8; \alpha(\text{N})=0.001092 17;$ $\alpha(\text{O})=0.000178 3$ $\alpha(\text{P})=1.387 \times 10^{-5} 21$ DCO=1.05 4 Additional information 1.
197.4 3	5.0 [#] 7	445.1	9/2 ⁺	247.6	7/2 ⁺	(M1)	0.1619	$\alpha(\text{K})=0.1385 21; \alpha(\text{L})=0.0185 3;$ $\alpha(\text{M})=0.00385 6; \alpha(\text{N})=0.000846 13;$ $\alpha(\text{O})=0.0001376 21$ $\alpha(\text{P})=1.075 \times 10^{-5} 16$ DCO=1.01 2 Additional information 4.
216.2 4	0.9 [#] 2	2567.9	(21/2 ⁺)	2351.7	(19/2 ⁺)	(M1+E2)	0.127 2	DCO=0.84 7 Additional information 8.

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⁵¹V(⁸²Se,4n γ),¹⁰⁰Mo(³⁴S,p4n γ) **1992He03,2000Wa28 (continued)**

γ (¹²⁹La) (continued)

<u>E_{γ}[†]</u>	<u>I_{γ}[†]</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.[‡]</u>	<u>α&</u>	<u>Comments</u>
220.9 3	25.1# 18	2788.9+x	(25/2 ⁺)	2567.9+x	(23/2 ⁺)	(M1+E2)	0.120 2	DCO=0.82 3 Additional information 10.
247.3 4	1.6# 4	247.6	7/2 ⁺	0.0	3/2 ⁺	[E2]		Additional information 2.
249.5 4	2.9# 7	694.7	11/2 ⁺	445.1	9/2 ⁺	D		DCO=1.03 3 Additional information 5.
253.4 4	0.9# 2	2821.2	(23/2 ⁺)	2567.9	(21/2 ⁺)	(M1+E2)	0.0825 12	DCO=0.83 4 Additional information 11.
269.0 3	97.3	440.9	15/2 ⁻	172.1	11/2 ⁻	E2	0.0666	α(K)=0.0532 8; α(L)=0.01054 16; α(M)=0.00225 4 α(N)=0.000486 7; α(O)=7.39×10 ⁻⁵ 11; α(P)=3.49×10 ⁻⁶ 5 DCO=1.31 4 Additional information 3.
272.4 4	1.4# 3	3093.7	(25/2 ⁺)	2821.2	(23/2 ⁺)	(M1+E2)	0.0678 10	DCO=0.92 6 Additional information 13.
276.6 3	21.5# 20	3065.6+x	(27/2 ⁺)	2788.9+x	(25/2 ⁺)	(M1+E2)	0.0651 10	DCO=0.92 3 Additional information 12.
293.8 4	0.6# 2	1313.7	15/2 ⁺	1019.8	13/2 ⁺			Additional information 6.
305.8 4	1.9 3	3093.7	(25/2 ⁺)	2787.9	(23/2 ⁺)	(M1+E2)	0.0498 7	DCO=0.88 5
322.6 4	18.6 18	3388.3+x	(29/2 ⁺)	3065.6+x	(27/2 ⁺)	(M1+E2)	0.0432 7	DCO=0.85 5
324.5 5	4.3 7	3418.2	(27/2 ⁺)	3093.7	(25/2 ⁺)	(M1+E2)	0.0425 6	α(K)=0.033 4; α(L)=0.0051 3; α(M)=0.00108 7 α(N)=0.000235 14; α(O)=3.71×10 ⁻⁵ 12; α(P)=2.4×10 ⁻⁶ 5 DCO=0.87 5
325.1 4	1.2 4	1019.8	13/2 ⁺	694.7	11/2 ⁺	(M1+E2)	0.0423 6	DCO=0.88 5
362.3 5	2.8 5	3780.6	(29/2 ⁺)	3418.2	(27/2 ⁺)	(M1+E2)	0.0319 5	DCO=0.70 8
365.0 3	12.2 13	3753.5+x	(31/2 ⁺)	3388.3+x	(29/2 ⁺)	(M1+E2)	0.0312 5	DCO=0.82 5
377.6 3	6.8 8	445.1	9/2 ⁺	67.5	5/2 ⁺	(E2)		DCO=1.35 2
385.0 5	1.5 3	2788.9+x	(25/2 ⁺)	2404.0+x	(21/2 ⁺)			
393.2 5	2.5 4	4173.9	(31/2 ⁺)	3780.6	(29/2 ⁺)	(M1+E2)	0.0258 4	DCO=0.69 7
399.4 3	8.7 8	4153.1+x	(33/2 ⁺)	3753.5+x	(31/2 ⁺)	(M1+E2)	0.0247 4	DCO=0.96 5
404.0 6	1.2 2	6335.0?	(41/2 ⁺)	5931.0	(39/2 ⁺)			
418.9 6	1.2 2	6754.0?	(43/2 ⁺)	6335.0?	(41/2 ⁺)			
425.2 6	1.8 4	4599.0	(33/2 ⁺)	4173.9	(31/2 ⁺)			
427.4 6	1.3 3	5931.0	(39/2 ⁺)	5503.8	(37/2 ⁺)			
430.9 6	3.3 7	2907.0	25/2 ⁺	2476.0	21/2 ⁺			
438.7 3	7.9 7	4591.9+x	(35/2 ⁺)	4153.1+x	(33/2 ⁺)			
444.6 6	1.6 3	5043.4	(35/2 ⁺)	4599.0	(33/2 ⁺)			
445.8 3	12.1 15	2429.0	23/2 ⁺	1983.0	19/2 ⁺	Q		DCO=1.49 3
446.9 4	8.7 14	694.7	11/2 ⁺	247.6	7/2 ⁺			
458.4 4	8.0 15	3473.3	29/2 ⁺	3014.8	27/2 ⁺	D		DCO=1.10 4
460.6 6	1.4 3	5503.8	(37/2 ⁺)	5043.4	(35/2 ⁺)			
462.5 4	4.4 5	5054.5+x	(37/2 ⁺)	4591.9+x	(35/2 ⁺)			
466.3 5	2.2 5	4195.0	33/2 ⁺	3728.7	31/2 ⁺	D		DCO=0.90 3
474.3 3	82.8 30	915.0	19/2 ⁻	440.9	15/2 ⁻	E2	0.01193	α(K)=0.00997 14; α(L)=0.001556 22;

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⁵¹V(⁸²Se,4nγ),¹⁰⁰Mo(³⁴S,p4nγ) **1992He03,2000Wa28 (continued)**

γ(¹²⁹La) (continued)

<u>E_γ[†]</u>	<u>I_γ[†]</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.[‡]</u>	<u>α&</u>	<u>Comments</u>
								α(M)=0.000327 5 α(N)=7.12×10 ⁻⁵ 10; α(O)=1.120×10 ⁻⁵ 16; α(P)=7.04×10 ⁻⁷ 10 DCO=1.31 4 DCO=0.78 3
478.0 5	5.2 11	2907.0	25/2 ⁺	2429.0	23/2 ⁺	(M1+E2)	0.0156	
492.9 6	1.7 5	2476.0	21/2 ⁺	1983.0	19/2 ⁺			
498.0 4	2.6 3	3065.6+x	(27/2 ⁺)	2567.9+x	(23/2 ⁺)			
502.9 5	2.5 4	5557.9+x	(39/2 ⁺)	5054.5+x	(37/2 ⁺)			
517.0 5	2.1 4	2239.3		1722.3				
528.0 6	1.8 4	6086.1+x	(41/2 ⁺)	5557.9+x	(39/2 ⁺)			
546.1 6	1.6 4	6632.2+x	(43/2 ⁺)	6086.1+x	(41/2 ⁺)			
566.3 ^a 5	10.3 ^a 22	2907.0	25/2 ⁺	2340.8	27/2 ⁻			
566.3 ^a 5	6.8 ^a 17	3473.3	29/2 ⁺	2907.0	25/2 ⁺			
574.6 3	9.1 15	1019.8	13/2 ⁺	445.1	9/2 ⁺	Q		DCO=1.45 4
585.8 3	21.6 25	3014.8	27/2 ⁺	2429.0	23/2 ⁺	Q		DCO=1.47 3
599.4 4	4.7 6	3388.3+x	(29/2 ⁺)	2788.9+x	(25/2 ⁺)			
618.8 4	8.3 16	1313.7	15/2 ⁺	694.7	11/2 ⁺			DCO=1.28 5
641.1 3	71.7 40	1556.0	23/2 ⁻	915.0	19/2 ⁻	Q		DCO=1.42 7
669.0 5	3.3 8	1983.0	19/2 ⁺	1313.7	15/2 ⁺			DCO=1.15 7
674.2 5	5.1 7	3014.8	27/2 ⁺	2340.8	27/2 ⁻	D		DCO=1.60 15
687.0 7	2.7 5	3780.6	(29/2 ⁺)	3093.7	(25/2 ⁺)			
687.9 3	5.1 6	3753.5+x	(31/2 ⁺)	3065.6+x	(27/2 ⁺)			
713.9 3	19.0 22	3728.7	31/2 ⁺	3014.8	27/2 ⁺	Q		DCO=1.54 5
721.7 5	6.7 11	4195.0	33/2 ⁺	3473.3	29/2 ⁺	Q		DCO=1.38 4
754.4 4	3.7 9	2068.1	19/2 ⁺	1313.7	15/2 ⁺	Q		DCO=1.46 7
755.8 7	1.9 4	4173.9	(31/2 ⁺)	3418.2	(27/2 ⁺)			
764.9 3	5.5 7	4153.1+x	(33/2 ⁺)	3388.3+x	(29/2 ⁺)			
770.9 4	2.8 7	2839.0	23/2 ⁺	2068.1	19/2 ⁺	Q		DCO=1.65 4
784.9 3	45.3 40	2340.8	27/2 ⁻	1556.0	23/2 ⁻	Q		DCO=1.41 7
818.4 8	1.6 3	4599.0	(33/2 ⁺)	3780.6	(29/2 ⁺)			
823.0 3	15.4 20	4551.7	35/2 ⁺	3728.7	31/2 ⁺	Q		DCO=1.53 5
823.0 ^b 3		6754.0?	(43/2 ⁺)	5931.0	(39/2 ⁺)			
831 ^b		6335.0?	(41/2 ⁺)	5503.8	(37/2 ⁺)			
838.4 4	5.7 8	4591.9+x	(35/2 ⁺)	3753.5+x	(31/2 ⁺)			
840.0 6	1.3 3	2787.9	(23/2 ⁺)	1947.9				
869.5 8	1.6 3	5043.4	(35/2 ⁺)	4173.9	(31/2 ⁺)			
873.1 3	19.4 22	2429.0	23/2 ⁺	1556.0	23/2 ⁻	D		DCO=1.45 5
882.5 6	2.4 8	5077.5	37/2 ⁺	4195.0	33/2 ⁺	Q		DCO=1.38 4
887.5 7	1.5 3	5931.0	(39/2 ⁺)	5043.4	(35/2 ⁺)			
901.6 5	5.6 8	5054.5+x	(37/2 ⁺)	4153.1+x	(33/2 ⁺)			
904.5 7	1.8 4	5503.8	(37/2 ⁺)	4599.0	(33/2 ⁺)			
910.3 3	26.8 20	3251.1	31/2 ⁻	2340.8	27/2 ⁻	Q		DCO=1.35 10
921.3 4	9.7 13	5473.0	39/2 ⁺	4551.7	35/2 ⁺	Q		DCO=1.55 4
966.1 4	3.6 7	5557.9+x	(39/2 ⁺)	4591.9+x	(35/2 ⁺)			
983 [@]		6060.5	41/2 ⁺	5077.5	37/2 ⁺			
1011.3 5	8.1 11	6484.3	43/2 ⁺	5473.0	39/2 ⁺	Q		DCO=1.42 6
1013.0 4	15.6 14	4264.1	35/2 ⁻	3251.1	31/2 ⁻	Q		DCO=1.34 4
1032.1 7	1.4 5	6086.1+x	(41/2 ⁺)	5054.5+x	(37/2 ⁺)			
1033.0 15	1.3 4	1947.9		915.0	19/2 ⁻			
1067.8 5	7.2 11	1983.0	19/2 ⁺	915.0	19/2 ⁻	D		DCO=1.49 8
1069 [@]		7129.5	45/2 ⁺	6060.5	41/2 ⁺			
1074.1 9	1.5 5	6632.2+x	(43/2 ⁺)	5557.9+x	(39/2 ⁺)			
1077.4 5	4.9 9	7561.7	47/2 ⁺	6484.3	43/2 ⁺	Q		DCO=1.59 6
1092.2 5	2.9 6	8653.9	51/2 ⁺	7561.7	47/2 ⁺	Q		DCO=1.46 8

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$^{51}\text{V}(^{82}\text{Se},4n\gamma), ^{100}\text{Mo}(^{34}\text{S},p4n\gamma)$ **1992He03,2000Wa28** (continued)

$\gamma(^{129}\text{La})$ (continued)

E_γ^\dagger	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	Comments
1094.0 6	8.4 9	5358.1	39/2 ⁻	4264.1	35/2 ⁻	Q	DCO=1.56 6
1109@		8238.5	49/2 ⁺	7129.5	45/2 ⁺		
1115.2 7	2.6 6	9769.2	(55/2 ⁺)	8653.9	51/2 ⁺		
1154.7 6	5.5 9	6512.8	43/2 ⁻	5358.1	39/2 ⁻	Q	DCO=1.43 7
1159@		7671.8	47/2 ⁻	6512.8	43/2 ⁻		
1180@		10949.2	59/2 ⁺	9769.2	(55/2 ⁺)		
1182@		8853.8	51/2 ⁻	7671.8	47/2 ⁻		
1183@		9421.5	53/2 ⁺	8238.5	49/2 ⁺		
1197.0 6	5.8 10	2217.4	(13/2 ⁺)	1019.8	13/2 ⁺	D	DCO=1.06 5
1229@		10082.8	55/2 ⁻	8853.8	51/2 ⁻		
1232.0 15	0.5 2	2787.9	(23/2 ⁺)	1556.0	23/2 ⁻		
1244@		12193.2	63/2 ⁺	10949.2	59/2 ⁺		
1265 1	0.5 2	2821.2	(23/2 ⁺)	1556.0	23/2 ⁻		
1281.4 6	3.1 5	1722.3		440.9	15/2 ⁻		
1295@ ^b		11377.8	59/2 ⁻	10082.8	55/2 ⁻		
1306@		13499.2	67/2 ⁺	12193.2	63/2 ⁺		
1418@		14917.2	71/2 ⁺	13499.2	67/2 ⁺		
1437.0 15	1.1 3	2351.7	(19/2 ⁺)	915.0	19/2 ⁻		
1557@		16474	75/2 ⁺	14917.2	71/2 ⁺		
1772.3 9	2.6 10	2217.4	(13/2 ⁺)	445.1	9/2 ⁺		
1777.4 8	2.3 10	2217.4	(13/2 ⁺)	440.9	15/2 ⁻		

[†] From 1992He03, unless otherwise noted.

[‡] From 1992He03 based on DCO ratios $I(35^\circ-35^\circ)/I(90^\circ-35^\circ)$ gated by a known stretched E2 transition. Assigned to be stretched Q or unstretched dipole for DCO-ratio>1.3 and stretched d for DCO-ratio<1.1. 1992He03 suggest possible M1+E2 mixing for much smaller DCO. Evaluators regard DCO-ratio<1.0 as (M1+E2).

Deduced by evaluators from $I(\gamma+ce)$ given by 1992He03 under the authors' assumption that $\delta \approx 0$ for mixed transitions. For γ rays with $E_\gamma > 300$ keV, conversion coefficient is considered negligible, thus I_γ value is the same as listed in 1992He03.

@ From 2000Wa28 above the energy region covered in 1992He03.

& $\delta(E2/M1)=0.3$ assumed when δ not listed.

^a Multiply placed with intensity suitably divided.

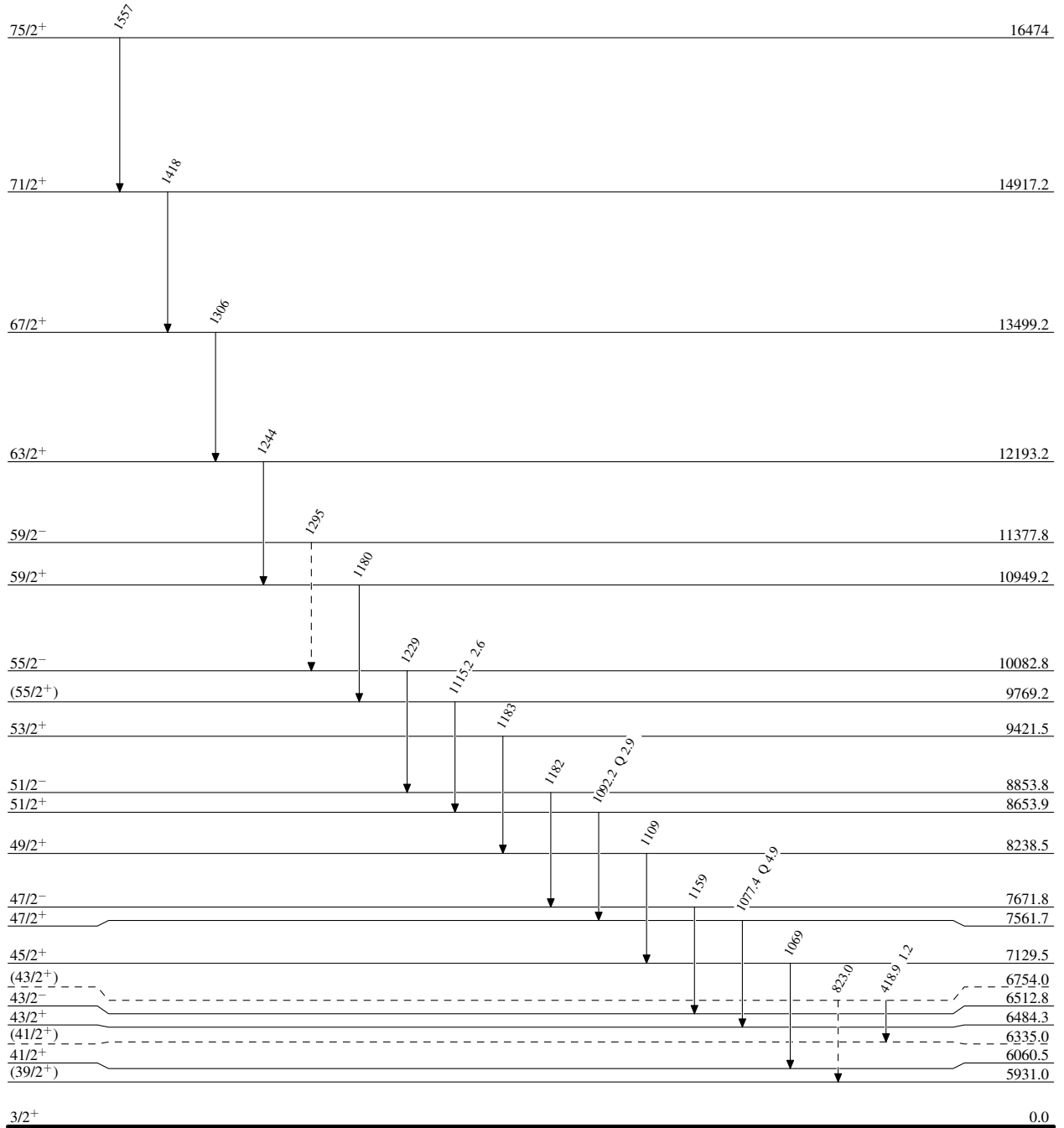
^b Placement of transition in the level scheme is uncertain.

$^{51}\text{V}(^{82}\text{Se},4n\gamma), ^{100}\text{Mo}(^{34}\text{S},p4n\gamma)$ 1992He03,2000Wa28

Legend

Level Scheme
Intensities: Relative I_γ

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



$^{129}_{57}\text{La}_{72}$

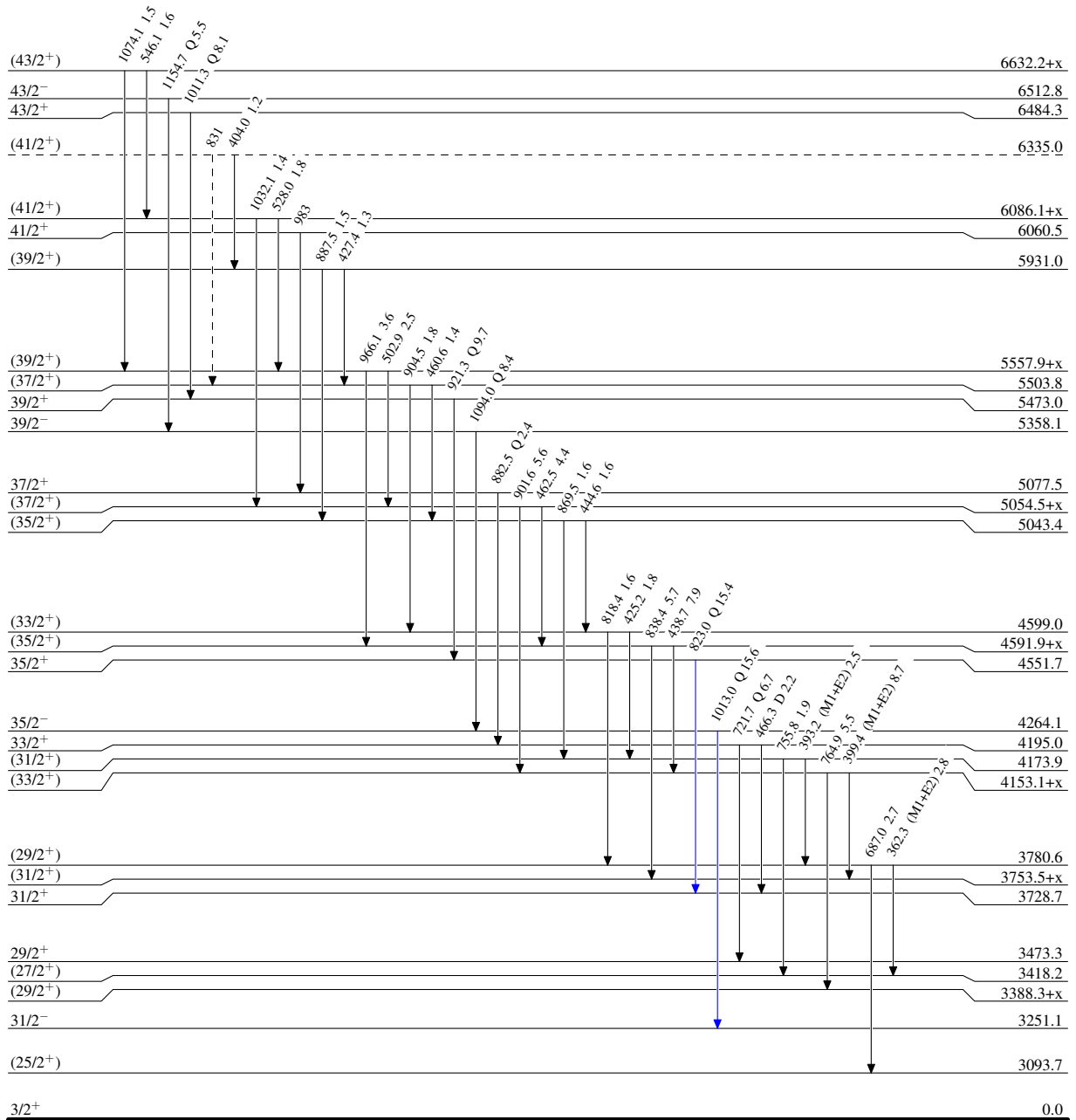
$^{51}\text{V}(^{82}\text{Se},4n\gamma), ^{100}\text{Mo}(^{34}\text{S},p4n\gamma)$ 1992He03,2000Wa28

Legend

Level Scheme (continued)

Intensities: Relative I_γ

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



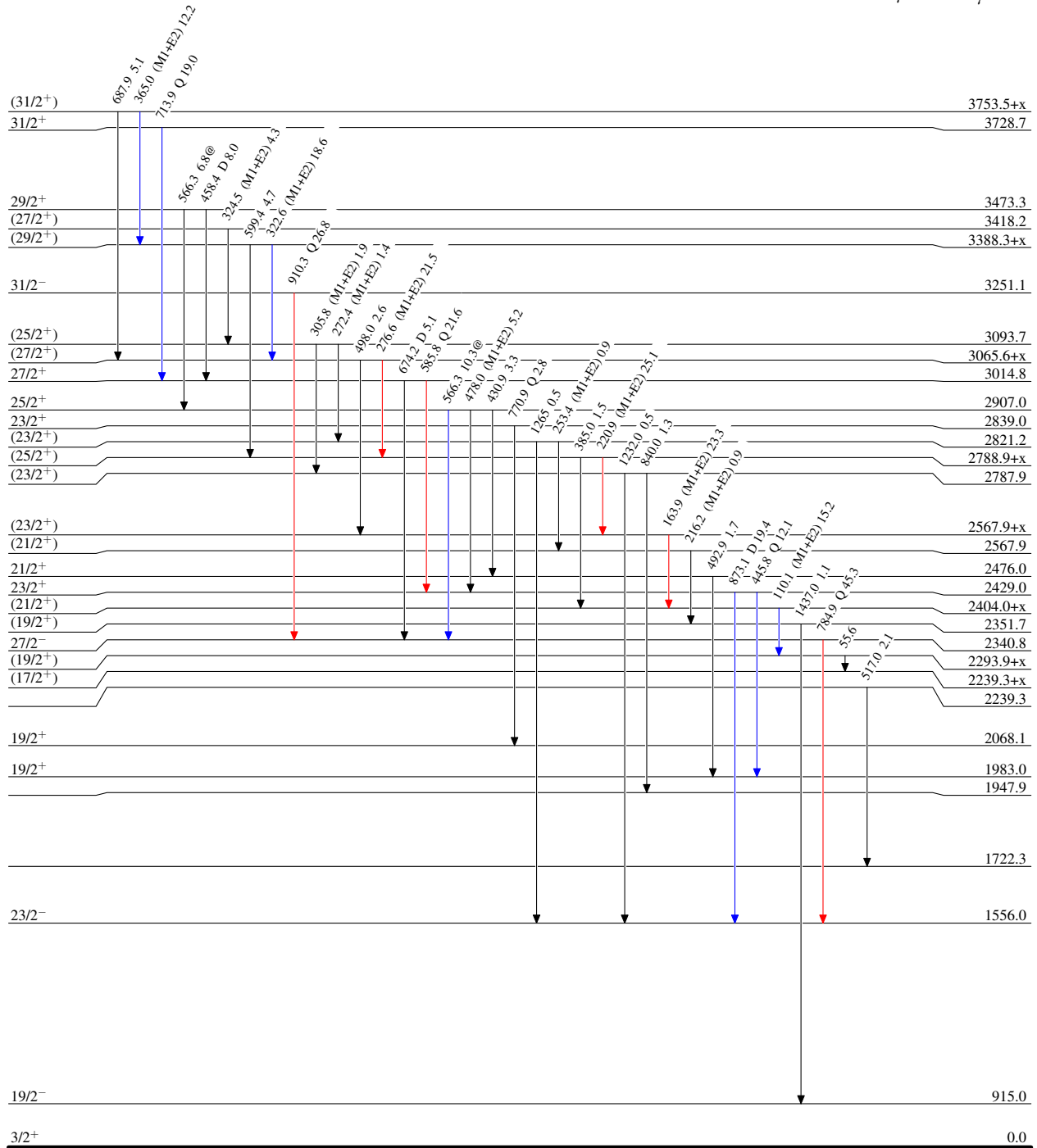
⁵¹V(⁸²Se,4nγ), ¹⁰⁰Mo(³⁴S,p4nγ) 1992He03,2000Wa28

Level Scheme (continued)

Legend

Intensities: Relative I_γ
 @ Multiply placed: intensity suitably divided

- I_γ < 2% × I_γ^{max}
- I_γ < 10% × I_γ^{max}
- I_γ > 10% × I_γ^{max}



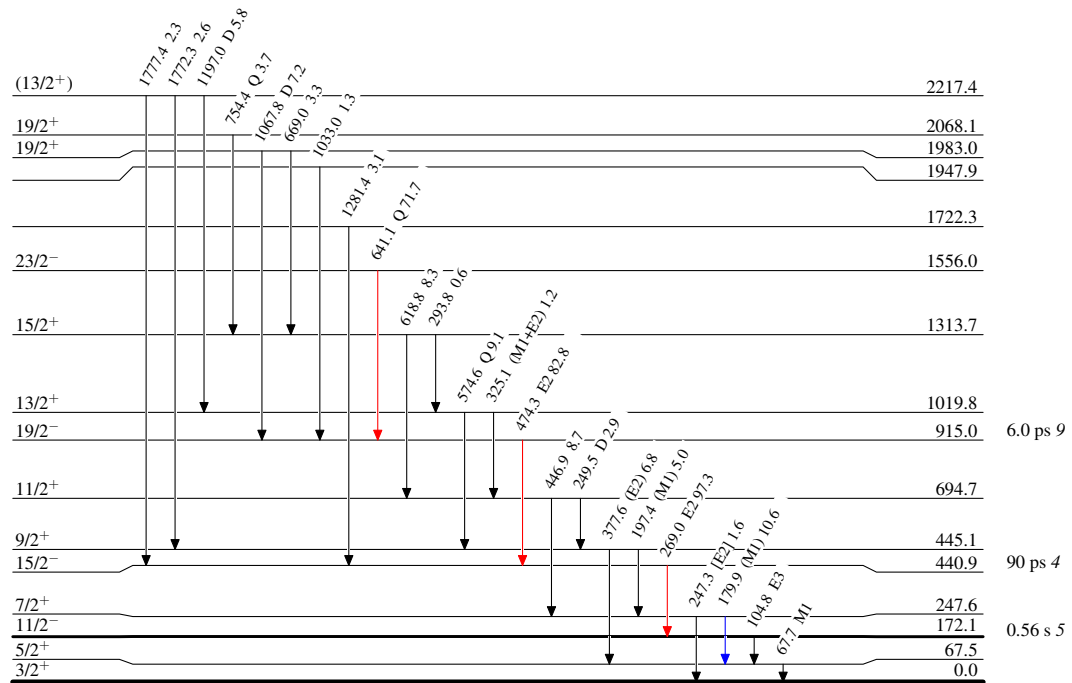
$^{51}\text{V}(^{82}\text{Se},4n\gamma), ^{100}\text{Mo}(^{34}\text{S},p4n\gamma)$ 1992He03,2000Wa28

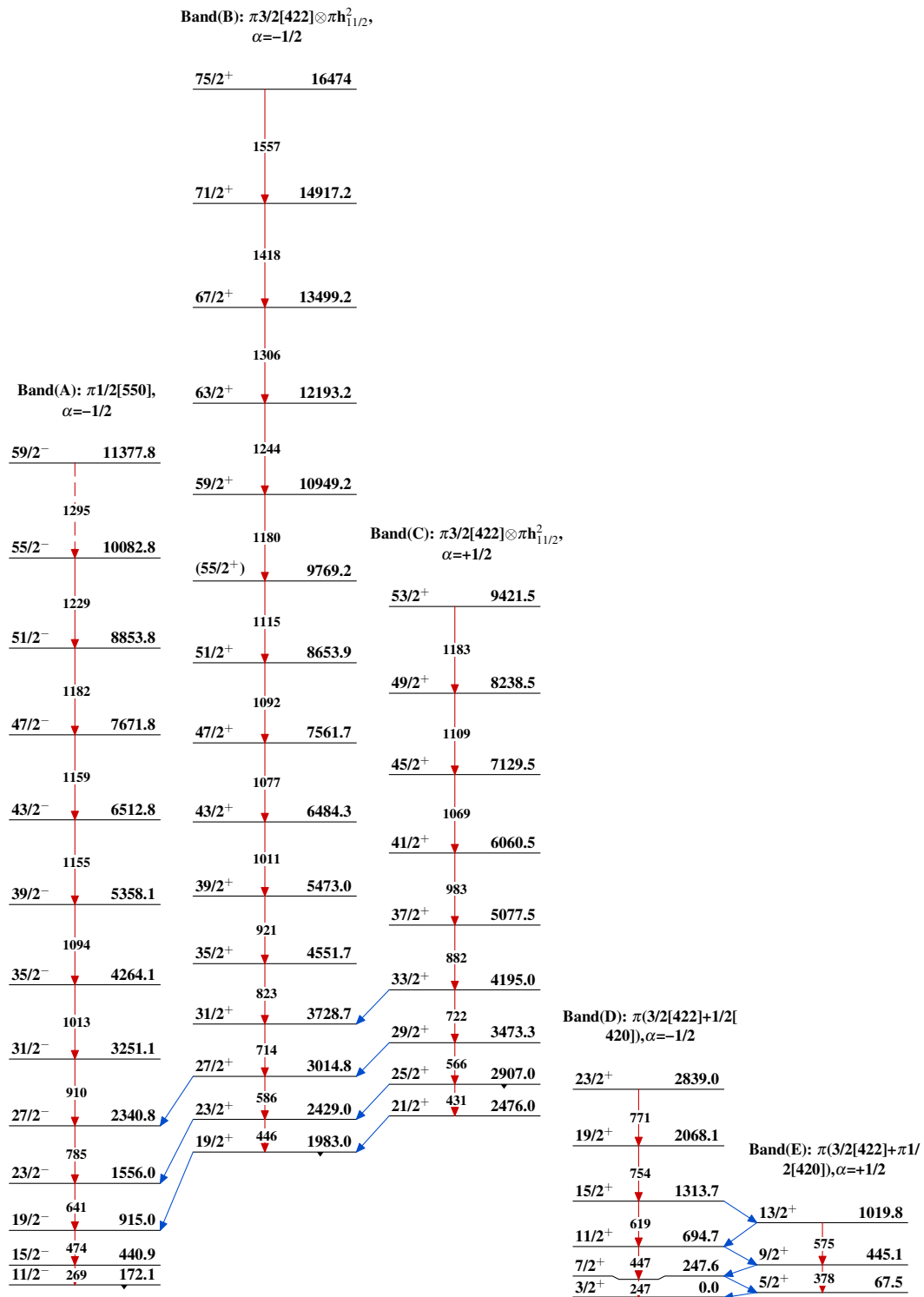
Level Scheme (continued)

Legend

Intensities: Relative I_γ
 @ Multiply placed: intensity suitably divided

\longrightarrow $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
 \longrightarrow $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
 \longrightarrow $I_\gamma > 10\% \times I_\gamma^{\text{max}}$

 $^{129}_{57}\text{La}_{72}$

$^{51}\text{V}(^{82}\text{Se},4n\gamma), ^{100}\text{Mo}(^{34}\text{S},p4n\gamma)$ 1992He03,2000Wa28

$^{51}\text{V}(^{82}\text{Se},4n\gamma),^{100}\text{Mo}(^{34}\text{S},p4n\gamma)$ 1992He03,2000Wa28 (continued)

