^{62}Ni(α,nγ), ^{56}Fe(^{12}C,2pnγ)

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 111, 2425 (2010)	1-Aug-2009

1977Lo03: Eα=6.5-17 MeV; measured Eγ, Iγ, γγ coincidences, γ(θ), γ yields, γ-linear polarization and $T_{1/2}$ by DSA; statistical model predictions of alignment.
1978Ko11: Eα=8.0-14.0 MeV; measured Eγ, Iγ, γγ coincidences, γ(θ), γ yields, γ-linear polarization and $T_{1/2}$ by DSA; statistical model predictions of alignment.
1978Ne02: Eα=14-24 MeV; measured Eγ, Iγ, γγ coincidences, γ(θ) and γ yields; E(^{12}C)=50 MeV; measured γγ coincidences.
1974Ni01: Eα≈14 MeV; measured Eγ, Iγ, γγ coincidences, γ(θ), γ yields and γ-linear polarization.
1975We08,1975We21: Eα=8.5 and 14 MeV; measured γ(θ,H,t) and γ(θ); statistical model prediction of alignment; deduced g-factors.
1977Ch14: Eα=8.2 MeV; measured Eγ, Iγ and $T_{1/2}$ by DSA.
1975ChYJ: ^{56}Fe(^{12}C,2pnγ) (probably); measured γ yields, γγ coincidences and γ(θ); no details of results but level scheme is given.
Data are almost entirely ^{62}Ni(α,nγ) data from 1974Ni01, 1977Lo03, 1978Ko11 and 1978Ne02. High excitation energy levels (above 5500) reported in 1975ChYJ but unconfirmed by other data are given tentatively. Level scheme data from 1977Ch14 are probably mostly from ^{65}Ni(p,nγ) data.

^{65}Zn Levels

Note: the $T_{1/2}$ values assumed by 1975We08, 1975We21 in the deduction of g-factors are in good agreement with adopted level data.

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	Comments
0	5/2⁻		
53.83 *17*	(1/2)⁻		
115.04 *13*	3/2⁻		J=3/2 consistent with γ(θ) (1975We08) and γ yield (1974Ni01). g-factor=−0.70 *17* from γ(θ,H,t) (1975We08,1978LeZA). Recalculated by the evaluators. See Adopted Levels.
206.86 *17*	3/2⁻		J=3/2 consistent with γ(θ) (1975We08) and γ yield (1974Ni01). g-factor=+0.63 *23* from γ(θ,H,t) (1975We08,1978LeZA). Recalculated by the evaluators. See Adopted Levels.
768.52 *14*	5/2⁻	1.3 ps *+7−4*	Jπ: 5/2⁻ from γ(θ) and polarization (1978Ko11). $T_{1/2}$: from 1977Ch14 at Eα=8.2 MeV. $T_{1/2}$>1.4 ps from 1978Ko11 at Eα=10.0 MeV.
864.19 *10*	7/2⁻	3 ps *+5−2*	Jπ: 7/2⁻ from γ(θ) and polarization (1978Ko11); 7/2⁻ from γ(θ), polarization and yield (1974Ni01). $T_{1/2}$: from 1977Ch14 at Eα=8.2 MeV. $T_{1/2}$>1.4 ps at Eα=10.0 MeV (1978Ko11).
867.4 *6*	1/2⁻	0.7 ps *+4−2*	$T_{1/2}$: from 1977Ch14 at Eα=8.2 MeV.
909.5 *3*	3/2⁻	1.4 ps *+5−3*	Jπ: 3/2⁻ from γ(θ) and polarization (1978Ko11); J=3/2 from yield (1974Ni01). $T_{1/2}$: weighted mean of 1.3 ps *+7−4* at Eα=8.2 MeV (1977Ch14) and 1.5 ps *+7−4* at Eα=10.0 MeV (1978Ko11).
1047.2 *5*	5/2⁻	0.37 ps *9*	Jπ: 5/2⁻ from γ(θ) and polarization (1978Ko11). $T_{1/2}$: weighted mean of 0.56 ps +24 −16 at Eα=8.2 MeV (1977Ch14) and 0.33 ps *9* at Eα=10.0 MeV (1978Ko11).
1065.49 *14*	9/2⁺	>1.4[&] ps	Jπ: 9/2⁺ from γ(θ) and polarization (1977Lo03); J=9/2 from γ(θ) (1974Ni01). g-factor=−0.35 *10* from γ(θ,H,t) (1975We21,1978LeZA).
1252.6 *3*	7/2⁻	1.6[@] ps *+8−5*	Jπ: 7/2⁻ from γ(θ) and polarization (1978Ko11); J=7/2 from γ(θ) and yield (1974Ni01).
1263.41 *20*	9/2⁻	>1.4[@] ps	Jπ: 9/2⁻ from γ(θ) and polarization (1978Ko11); 9/2⁻ from γ(θ), polarization and yield (1974Ni01).
1343.8 *3*	5/2⁻	>1.4[@] ps	Jπ: 5/2⁻ from γ(θ) and polarization (1978Ko11). E(level): from 1978Ko11.
1368.96 *24*	5/2⁺	>1.4[&] ps	Jπ: 5/2⁺ from γ(θ) and polarization (1977Lo03); J=5/2 from γ(θ) and yield (1974Ni01).

Continued on next page (footnotes at end of table)

^{62}Ni(α,nγ), ^{56}Fe(^{12}C,2pnγ) (continued)

^{65}Zn Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	Comments
1469.7 *4*	3/2⁻	0.12[@] ps *5*	Jπ: 3/2⁻ from γ(θ) and polarization (1978Ko11). E(level): from 1978Ko11.
1576.9 *4*	3/2⁻	0.17[@] ps *4*	Jπ: 3/2⁻ from γ(θ) and polarization (1978Ko11). E(level): from 1978Ko11.
1587.4 *6*	7/2⁻	0.15[@] ps *6*	Jπ: 7/2⁻ from γ(θ) and polarization (1978Ko11). E(level): 1588.1 *4* from 1978Ko11.
1907.3 *5*	(9/2)		J=(9/2) from γ(θ) and γ yields (1974Ni01).
1957.2 *8*	7/2⁺	0.42[&] ps *7*	Jπ: 7/2⁺ from γ(θ) and polarization (1977Lo03).
2053.8 *3*	13/2⁺	>1.4[&] ps	Jπ: 13/2⁺ from γ(θ) and polarization (1977Lo03); 13/2⁺ from γ(θ), polarization and yield (1974Ni01).
2135.1 *8*	9/2⁺	>1.4[&] ps	Jπ: 9/2⁺ from γ(θ) and polarization (1977Lo03).
2137.6 *4*	11/2⁺	0.67[&] ps *12*	Jπ: 11/2⁺ from γ(θ) and polarization (1977Lo03); J=11/2 from γ(θ) and yield (1974Ni01); J=11/2 from γ(θ) and yield (1978Ne02).
2301.9 *5*			
2923.1 *4*	13/2		J=13/2 from γ(θ) and γ yields (1974Ni01).
2931.8 *9*	(9/2,13/2)		J=(9/2,13/2) from γ(θ) (1978Ne02).
3227.7 *5*	17/2⁺		J≥13/2 from 1173 γ yield (1978Ne02) and J=13/2, 15/2 from observation of γ yield in ^{63}Cu(α,npγ)^{65}Zn at E=24-31 MeV (1974Ni01).
3335.8? *6*			
3472.6 *4*	(15/2)		J=(15/2) from γ(θ) and yield (1978Ne02).
3712.6?			
3785.5 *6*	17/2⁺,13/2⁺		J=(17/2) from γ(θ) and yield (1978Ne02).
4079.2 *5*	(13/2,15/2)		
4625.0 *7*			
4888.0 *10*			
4938.2 *10*	21/2		
5067.5 *8*	(19/2)		J=(19/2) from γ(θ) (1978Ne02).
5414.1 *8*	(21/2)		J=(21/2) from γ(θ) and yield (1978Ne02).
5773?			
6847?			
8003?			

† From a least-squares fit to Eγ data, except as noted.

‡ From Adopted Levels; supporting arguments from this data set based on γ(θ), γ-linear polarization and γ-ray yields are given in comments In 1977Lo03 and 1978Ko11 a parameter describing the population of the magnetic sub-states, derived from the compound nuclear statistical model has been included in the least-squares fit for possible J^{π} values.

\# By DSA from 1977Ch14, 1977Lo03 and 1978Ko11. For values from 1977Lo03 and 1978Ko11 $\Delta T_{1/2}$ have been increased to allow for a 15% uncertainty in the stopping powers.

@ From 1978Ko11, at Eα=10.0 MeV.

& From 1977Lo03, at Eα≈10-11 MeV.

γ(^{65}Zn)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	δ[#]	Comments
53.8 2		53.83	(1/2)⁻	0	5/2⁻			E_γ: from Adopted Levels. Eγ=53.8 2 reported in 1974Ni01 was probably taken from previous work. I_γ: not measured (1974Ni01).
61.1[g] 2		115.04	3/2⁻	53.83	(1/2)⁻	(M1+E2)[b]		E_γ: reported in 1974Ni01 but probably assumed from other work (*e.g.*, ^{65}Ga ε decay) since no 61γ is reported in other ^{62}Ni(α,nγ) data. I_γ: not measured (1974Ni01). δ: +0.07 5 or −2.0 3 from analysis of γ(θ) and prediction of alignment from compound nuclear statistical model (1975We08).
92[g]		206.86	3/2⁻	115.04	3/2⁻			E_γ: reported in 1974Ni01 (ΔE(γ) not given) but γ probably assumed from other work (*e.g.* ^{65}Ga ε decay) since no 92γ is reported in other ^{62}Ni(α,nγ) data. I_γ: not measured (1974Ni01).
115.1 2	23	115.04	3/2⁻	0	5/2⁻	(M1+E2)[b]	−0.18 6	δ: −0.07 2 or −3.5 3 (1975We08).
153.0 2	15	206.86	3/2⁻	53.83	(1/2)⁻	(M1+E2)[b]	+0.09 9	δ: from 0<δ<+0.17 (1974Ni01). δ=+0.11 3 or −2.3 2 (1975We08).
201.3 1	63	1065.49	9/2⁺	864.19	7/2⁻	E1(+M2)[&]	+0.00 1	%branching: 95 1, (1977Lo03), 84 4 (1978Ne02). δ: +0.04 2 (1978Ne02), +0.00 1 (1977Lo03).
206.9 2	5.3	206.86	3/2⁻	0	5/2⁻	(M1+E2)[b]	+0.6 3	δ: from +0.3<δ<+0.8 (1974Ni01). δ=+0.27 9 or <−50 or >+7.5 (1975We08).
346.6 3		5414.1	(21/2)	5067.5	(19/2)	(D+Q)[c]	+0.04[f] +2−5	
399.22[@] 22	2.7	1263.41	9/2⁻	864.19	7/2⁻	M1+E2[&]	−0.023[d] 10	E_γ: Eγ=395 3 from γγ coincidence spectra (1974Ni01). I_γ: estimated from branchings (1978Ko11) and Iγ(1263.4) (1974Ni01). %branching: 7 1 (1978Ko11).
484.0 3	2.5	1252.6	7/2⁻	768.52	5/2⁻	M1+E2[&]	+0.07 10	%branching: 19 1 (1978Ko11). δ: +0.03 1 (1978Ko11).
557.6 3		3785.5	17/2⁺,13/2⁺	3227.7	17/2⁺			%branching: 34 8 (1978Ne02).
561.66[@] 21	0.9	768.52	5/2⁻	206.86	3/2⁻			I_γ: estimated from %branchings (1978Ko11) and Iγ′s (1974Ni01). %branching: 3 1 (1978Ko11).
588 1		1957.2	7/2⁺	1368.96	5/2⁺	M1+E2[&]	+0.11[e] 1	E_γ: from 1977Lo03, uncertainty estimated by evaluators. %branching: 21 1 (1977Lo03).
606.2 4		4079.2	(13/2,15/2)	3472.6	(15/2)			%branching: 57 14 (1978Ne02).
653.5 1	9.2	768.52	5/2⁻	115.04	3/2⁻	M1+E2[a]	−0.14 12	%branching: 33 1 (1978Ko11). δ: −0.43 4 (1978Ko11).
657.33[@g] 19		864.19	7/2⁻	206.86	3/2⁻			%branching: ≤2 from uncertainties on branchings for 749γ and 864γ.
702.6[@] 4	0.4	909.5	3/2⁻	206.86	3/2⁻			I_γ: estimated from branchings (1978Ko11) and Iγ(909.5) (1974Ni01). %branching: 7 1 (1978Ko11).

γ(^{65}Zn) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J^π_i	E_f	J^π_f	Mult.	δ[#]	Comments
714.69[@] *21*	3.2	768.52	5/2⁻	53.83	(1/2)⁻			I_γ: estimated from branchings (1978Ko11) and Iγ's (1974Ni01). %branching: 11 *1* (1978Ko11).
749.1 *2*	15	864.19	7/2⁻	115.04	3/2⁻	(E2+M3)[b]	+0.04 *3*	%branching: 14 *2* (1978Ne02) in agreement with Iγ values. Branching=23 *1* from 1978Ko11.
766 *1*		2135.1	9/2⁺	1368.96	5/2⁺			E_γ: from 1977Lo03, uncertainty estimated by evaluators. %branching: not given (1977Lo03).
768.4 *2*	16	768.52	5/2⁻	0	5/2⁻	M1+E2[&]	+0.51 *+10−28*	%branching: 53 *1* (1978Ko11). δ: +0.33 *6* (1978Ko11).
785.7 *3*	2.5	2923.1	13/2	2137.6	11/2⁺	D+Q[c]	+0.6 *2*	%branching: 32 *4* (1978Ne02).
794.5[@] *4*	1.2	909.5	3/2⁻	115.04	3/2⁻	M1+E2[a]	+0.40[d] *12*	I_γ: estimated from branchings (1978Ko11) and Iγ(909.5) (1974Ni01). %branching: 23 *1* (1978Ko11).
813.6 *5*		867.4	1/2⁻	53.83	(1/2)⁻			
818.9 *5*		1587.4	7/2⁻	768.52	5/2⁻	M1+E2[a]	−0.23[d] *3*	E_γ: estimated by evaluators from level energy differences and uncertainties in 1978Ko11. %branching: 10 *1* (1978Ko11).
835[g]		5773?		4938.2	21/2			
855.7[@] *4*	1.2	909.5	3/2⁻	53.83	(1/2)⁻	(M1+E2)[a]	−0.96[d] *20*	I_γ: estimated from branchings (1978Ko11) and Iγ(909.5) (1974Ni01). %branching: 22 *1* (1978Ko11).
864.2 *1*	100	864.19	7/2⁻	0	5/2⁻	M1+E2[&]	−2.27 *3*	%branching: 86 *2* (1978Ne02) in agreement with Iγ values. %branching=77 *1* from 1978Ko11. δ: −2.17 *4* (1978Ko11).
870[g]		2923.1	13/2	2053.8	13/2⁺			Reported in 1975ChYJ.
892 *1*		1957.2	7/2⁺	1065.49	9/2⁺	M1+E2[&]	−0.27[e] *1*	E_γ: from 1977Lo03, uncertainty estimated by evaluators. %branching: 79 *1* (1977Lo03).
909.5 *3*	2.5	909.5	3/2⁻	0	5/2⁻	M1+E2[a]	+0.25[d] *4*	%branching: 48 *1* (1978Ko11).
932.1 *5*	5.7	1047.2	5/2⁻	115.04	3/2⁻	M1+E2[a]	−0.42[d] *5*	E_γ: member of an unresolved γ doublet (1974Ni01). %branching: 62 *2* (1978Ko11).
988.2 *3*	30	2053.8	13/2⁺	1065.49	9/2⁺	E2(+M3)[&]	+0.01 *2*	
1046 *1*	8	1252.6	7/2⁻	206.86	3/2⁻			E_γ: member of an unresolved γ doublet (1974Ni01). I_γ: estimated from branchings (1978Ko11) and Iγ(484.0) (1974Ni01). Iγ<18 (1974Ni01). %branching: 61 *4* (1978Ko11), estimated from $\gamma\gamma$ coincidence spectra.
1047.2 *10*	3.5	1047.2	5/2⁻	0	5/2⁻			E_γ: member of an unresolved γ doublet (1974Ni01). I_γ: estimated from branchings (1978Ko11) and Iγ(932.1) (1974Ni01). %branching: 38 *2*, estimated from $\gamma\gamma$ coincidence spectra (1978Ko11).
1065.49 *14*	8	1065.49	9/2⁺	0	5/2⁻	M2+E3[&]	−0.13[e] *2*	E_γ: a 1066γ is reported in 1977Lo03. Eγ is from level energy difference. I_γ: estimated from Iγ(201) (1974Ni01) and branchings (1977Lo03,1978Ne02). %branching: 5 *1*, (1977Lo03), 16 *4* (1978Ne02).
1069[g] *1*		2135.1	9/2⁺	1065.49	9/2⁺			E_γ: from 1977Lo03, uncertainty estimated by evaluators. %branching: not given (1977Lo03).

From ENSDF

γ(^{65}Zn) (continued)

E_γ [†]	I_γ [‡]	E_i(level)	J^π_i	E_f	J^π_f	Mult.	δ [#]	Comments
1072.4 *4*	16	2137.6	11/2$^+$	1065.49	9/2$^+$	M1+E2[&]	+1.4 −*6*+*2*	E_γ: 1071.7 *3* reported in 1974Ni01, but possibly includes some 1069γ from the 2135 level. δ: +0.67 *5* (1977Lo03), +0.84 *10* (1978Ne02).
1074[g]		6847?		5773?				
1136.9[@] *4*		1343.8	5/2$^-$	206.86	3/2$^-$			E_γ: member of an unresolved γ triplet (1978Ko11). %branching: 15 *1*, estimated from γγ coincidence spectra (1978Ko11).
1138.0 *10*	2.6	1252.6	7/2$^-$	115.04	3/2$^-$			E_γ: member of an unresolved γ doublet (1974Ni01) or γ triplet (1978Ko11). I_γ: estimated from branchings (1978Ko11) and Iγ(484.0) (1974Ni01). Iγ<9.0 (1974Ni01). %branching: 20 *4*, estimated from γγ coincidence spectra (1978Ko11).
1138.8 *4*	<9.0	1907.3	(9/2)	768.52	5/2$^-$			E_γ: member of an unresolved γ doublet (1974Ni01) or γ triplet (1978Ko11).
1156[g]		8003?		6847?				An 1156.5γ 5 is placed from the 4080 level by 1978Ne02.
1156.5 *5*		4079.2	(13/2,15/2)	2923.1	13/2			%branching: 43 *14* (1978Ne02).
1173.5 *4*	<21	3227.7	17/2$^+$	2053.8	13/2$^+$	(E2)[&]		E_γ: member of an unresolved γ doublet (1974Ni01); member of a triplet (1978Ne02). Mult.: γ(θ) and polarization of this complex line were consistent with an E2 assignment (1974Ni01).
1199[g]		3335.8?		2137.6	11/2$^+$			Reported in 1975ChYJ.
1228.8[@] *4*		1343.8	5/2$^-$	115.04	3/2$^-$	M1+E2[&]	−0.33[d] *3*	%branching: 64 *2* (1978Ko11).
1253.9 *2*	7.3	1368.96	5/2$^+$	115.04	3/2$^-$	E1+M2[&]	−0.12 *11*	%branching: >60 (1977Lo03). δ: −0.04 *1* (1977Lo03).
1263.4 *2*	36	1263.41	9/2$^-$	0	5/2$^-$	E2(+M3)[&]	+0.03 *3*	%branching: 93 *1* (1978Ko11). δ: −0.045 *20* (1978Ko11).
1271 *1*		2135.1	9/2$^+$	864.19	7/2$^-$	E1+M2[&]	−0.06[e] *1*	E_γ: from 1977Lo03, uncertainty estimated by evaluators. %branching: >13 (1977Lo03).
1282.0[g] *5*		3335.8?		2053.8	13/2$^+$			
1282.0 *5*		5067.5	(19/2)	3785.5	17/2$^+$,13/2$^+$	(D+Q)[c]	−0.07[f] *9*	
1334.8 *5*		3472.6	(15/2)	2137.6	11/2$^+$	(Q+(O))[c]	−0.00[f] *6*	%branching: 68 *6* (1978Ne02).
1343.8[@] *3*		1343.8	5/2$^-$	0	5/2$^-$			%branching: 21 *1* (1978Ko11).
1354.7[@] *5*		1469.7	3/2$^-$	115.04	3/2$^-$	M1+E2[a]	+0.21[d] *3*	%branching: 70 *3* (1978Ko11).
1368.94[@] *24*	<4.9	1368.96	5/2$^+$	0	5/2$^-$			I_γ: from Iγ(1254) (1974Ni01) and branchings (1977Lo03). %branching: <40 (1977Lo03).
1370.0[@] *5*		1576.9	3/2$^-$	206.86	3/2$^-$			%branching: 39 *3*, estimated from γγ coincidence spectra (1978Ko11).
1397.3 *5*		4625.0		3227.7	17/2$^+$			
1415.9[@] *5*		1469.7	3/2$^-$	53.83	(1/2)$^-$	M1+E2[a]	+0.24[d] *5*	%branching: 28 *2* (1978Ko11).

From ENSDF

^{62}Ni(α,nγ), ^{56}Fe(^{12}C,2pnγ) (continued)

γ(^{65}Zn) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J^π_i	E_f	J^π_f	Mult.	δ[#]	Comments
1418.5 *5*		3472.6	(15/2)	2053.8	13/2+	(D+Q)[c]	+0.8[f] *4*	%branching: 32 *6* (1978Ne02).
1469.7[@g] *4*		1469.7	3/2−	0	5/2−			%branching: <5, estimated from γγ coincidence spectra (1978Ko11).
1472.4[@] *5*		1587.4	7/2−	115.04	3/2−			%branching: 22 *2*, estimated from γγ coincidence spectra (1978Ko11).
1523.1[@] *5*		1576.9	3/2−	53.83	(1/2)−	M1+E2[&]	−2.5[d] *3*	%branching: 29 *2* (1978Ko11).
1533.4 *4*		2301.9		768.52	5/2−			
1575[g]		3712.6?		2137.6	11/2+			
1576.9[@] *4*		1576.9	3/2−	0	5/2−			%branching: 32 *2* (1978Ko11).
1587.4[@] *6*		1587.4	7/2−	0	5/2−	M1+E2[&]	+0.31[d] *2*	%branching: 68 *2* (1978Ko11).
1660.3 *8*		4888.0		3227.7	17/2+			
1668.4 *8*		2931.8	(9/2,13/2)	1263.41	9/2−	(Q+O)[c]	−0.07[f] *5*	
1710.5 *8*		4938.2	21/2	3227.7	17/2+			
1733.0 *8*		3785.5	17/2+,13/2+	2053.8	13/2+	(Q+(O))[c]	−0.00[f] *5*	%branching: 66 *8* (1978Ne02).
1857.5 *5*	5.3	2923.1	13/2	1065.49	9/2+			I_γ: estimated from Iγ(786) and branchings (1978Ne02). %branching: 68 *4* (1978Ne02).
1906.7[g] *8*		1907.3	(9/2)	0	5/2−			

[†] Mainly from 1974Ni01 for γ′s depopulating levels below E=1900 and from 1978Ne02 for γ′s depopulating levels above E=1900, but many Eγ are from level energy differences since ΔE(γ) are not quoted by 1977Lo03 and 1978Ko11.

[‡] Relative intensity from 1974Ni01 (uncertainties not given), except as noted. Percent branchings from 1977Lo03, 1978Ko11 and 1978Ne02 are given in comments.

[#] From analysis of γ(θ) data (1974Ni01), except as noted. Analysis of γ(θ) data in 1975We08, 1977Lo03, 1978Ko11 and 1978Ne02 includes a model-dependent alignment parameter.

[@] From level energy difference.

[&] From γ(θ) and polarization.

[a] From γ(θ) and RUL.

[b] From γ(θ) and ΔJ^π.

[c] From γ(θ).

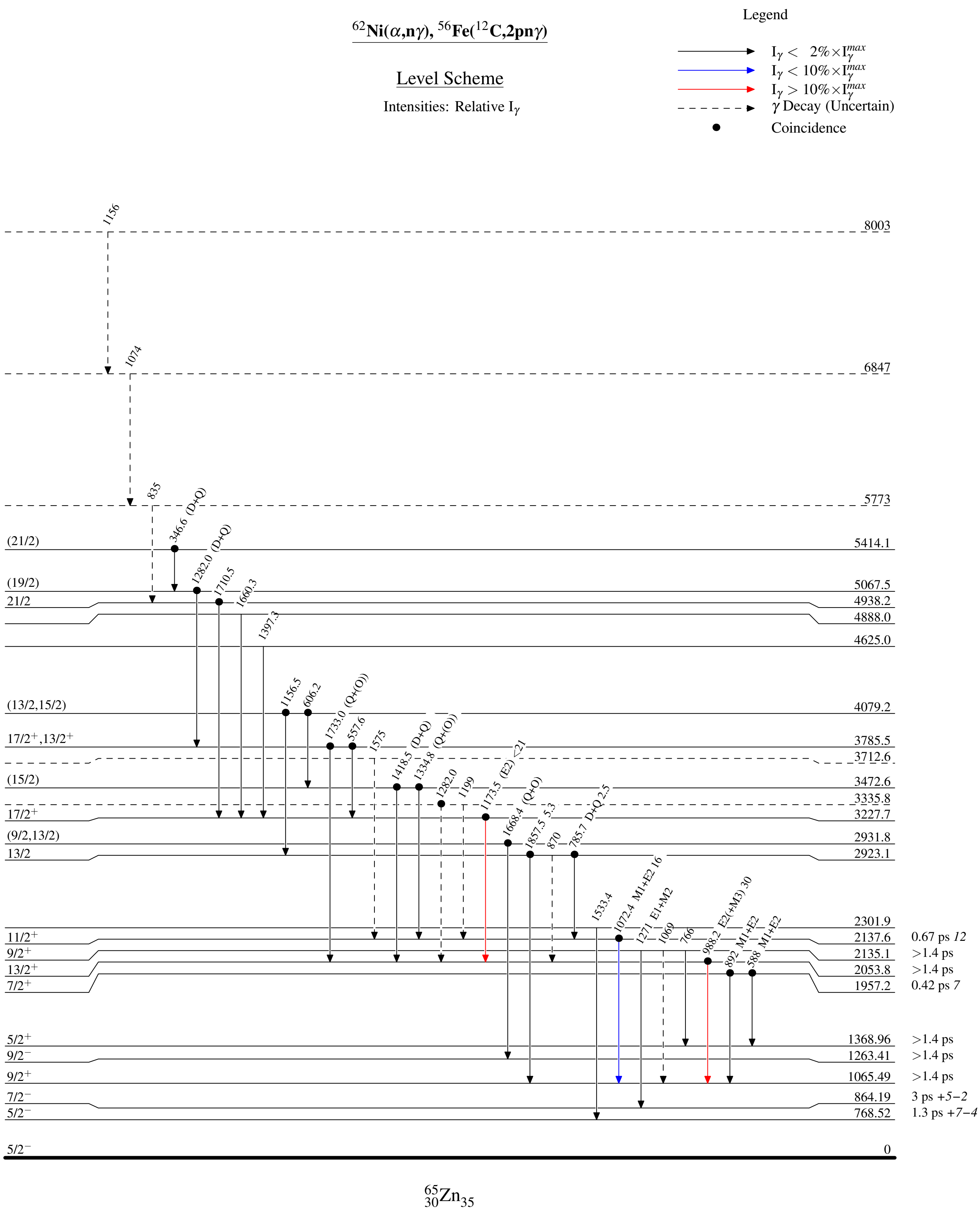
[d] From 1978Ko11.

[e] From 1977Lo03.

[f] From 1978Ne02.

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

$^{65}_{30}Zn_{35}$-6


^{62}Ni(α,nγ), ^{56}Fe(^{12}C,2pnγ)
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)
Coincidence
8003
6847
5773
(21/2) 5414.1
(19/2) 5067.5
21/2 4938.2
4888.0
4625.0
(13/2,15/2) 4079.2
17/2+,13/2+ 3785.5
3712.6
(15/2) 3472.6
3335.8
17/2+ 3227.7
(9/2,13/2) 2931.8
13/2 2923.1
2301.9
11/2+ 2137.6 0.67 ps 12
9/2+ 2135.1 >1.4 ps
13/2+ 2053.8 >1.4 ps
7/2+ 1957.2 0.42 ps 7
5/2+ 1368.96 >1.4 ps
9/2− 1263.41 >1.4 ps
9/2+ 1065.49 >1.4 ps
7/2− 864.19 3 ps +5−2
5/2− 768.52 1.3 ps +7−4
5/2− 0
$^{65}_{30}Zn_{35}$

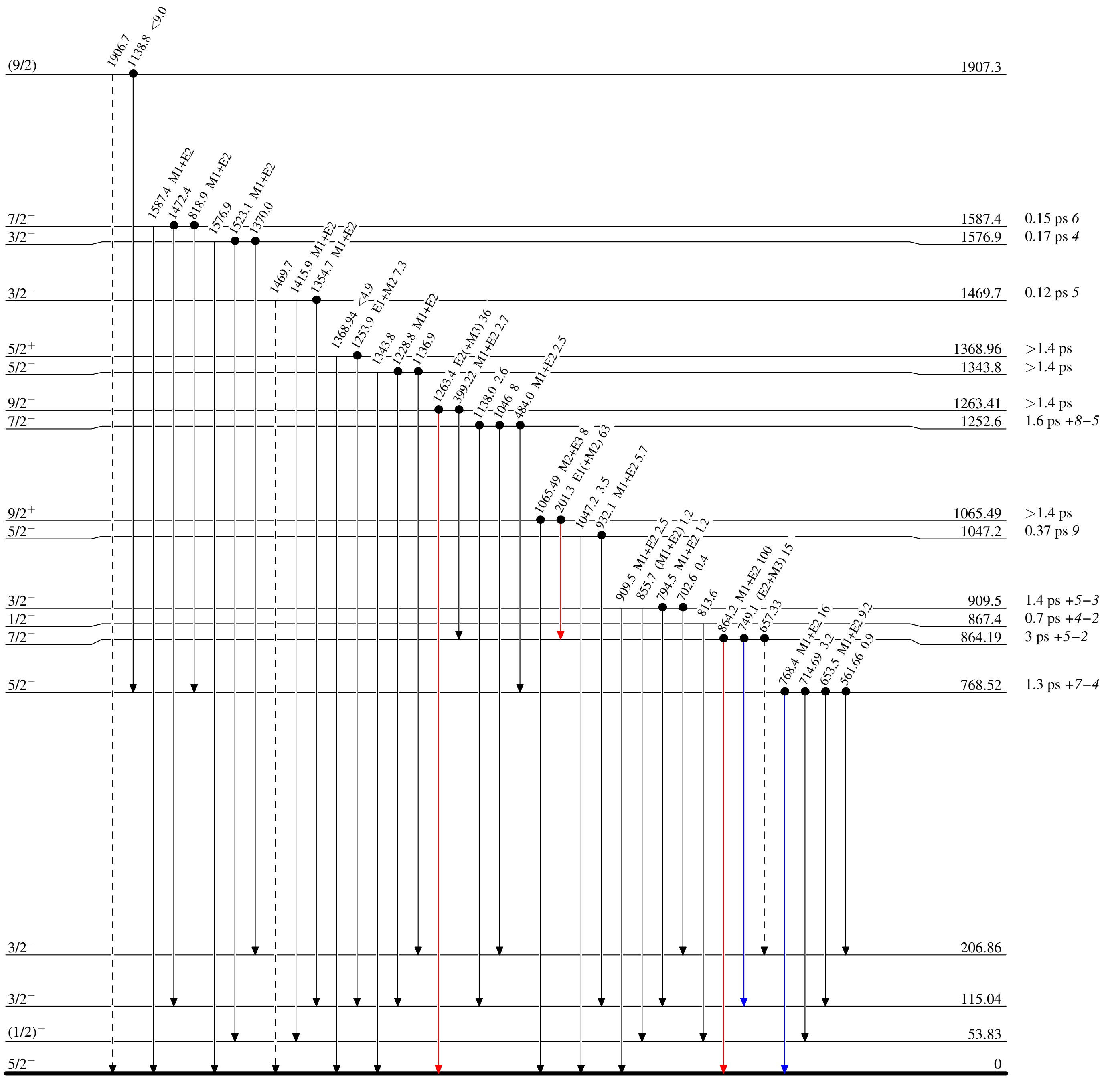
^{62}Ni(α,nγ), ^{56}Fe(^{12}C,2pnγ)

Level Scheme (continued)

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)
- Coincidence



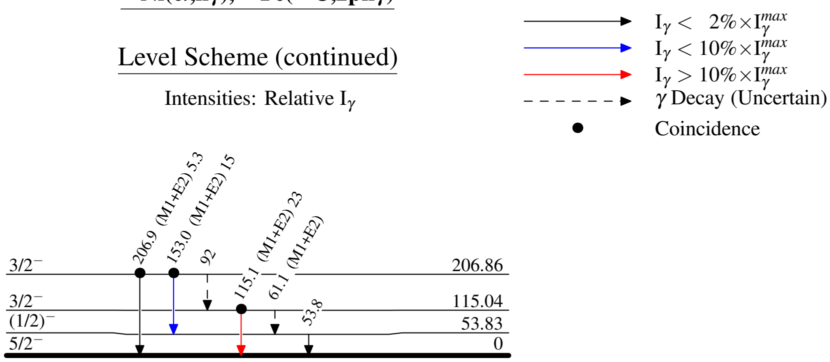
$^{65}_{30}Zn_{35}$

^{62}Ni(α,nγ), ^{56}Fe(^{12}C,2pnγ)

Level Scheme (continued)

Intensities: Relative I_γ

Legend



$^{65}_{30}Zn_{35}$