^{62}Ni(p,γ)

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Huo Junde, Yang Dong, Huo Meirong,	ENSDF	28-Aug-2008

1986De14 E=1150-1700, Eγ, Iγ.
1980Co02 E=2480, DSA.
1979Vo01 E=3766-3865, $\gamma(\theta)$ for the highest two levels.
1977Ek03 E=1400-3000, $\gamma(\theta)$.
1977Kr05 E=2481, 2556, 2659, $\gamma(\theta)$.
1975Kr06, 1975Kr10 E=2481, 2546, 2512, 2556, 2659; IAS.
1974Ra01 E=2480, FWHM=2, Γ_γ.
1974Wi15 E=2300-2700, IAS.
1972Ki15 E=1298, 1372, 1413, 1430, 1507, $\gamma(\theta)$.
1972Sz01 E=3660-3890, FWHM≈3, $\gamma(\theta)$, IAS.
1968Tr04 E=1215-1848, $\gamma\gamma(\theta)$.
Others: 1981Pa12, 1988Iz02.
See 1975Kr10 for additional transitions from E(p)≈2660 multiplet.

E(level)	source of data (except as noted otherwise)
0 -- 7000	1986De14, 1975Kr10
7000 -- 8000	1972Ki15
8000 -- 8650	1975Kr10, 1977Kr05
8650 -- 9000	1974Wi15
9000 -- 9900	1972Sz01,1979Vo01

^{63}Cu Levels

E(level)[†]	J$^\pi$	$T_{1/2}$	Comments
0	3/2$^-$		
669.96 *20*	1/2$^-$		
962.05 *20*	5/2$^-$		
1326.6 *4*	7/2$^-$		
1411.4 *3*	5/2$^-$		J$^\pi$: from $\gamma(\theta)$ and branching ratio of γ decay from 7510 and 7527 resonance states (1972Ki15).
1547.22 *24*	3/2$^-$	114 fs *11*	$T_{1/2}$: from DSA (1980Co02).
1861.3 *4*	7/2$^-$		
2011.6 *3*	3/2$^-$	51 fs *5*	$T_{1/2}$: from DSA (1980Co02).
2061.9 *3*	(1/2)$^-$		
2081.0 *4*	5/2$^{(-)}$		
2092.1 *5*	7/2$^-$		
2336.4 *5*	5/2$^-$		
2404.7 *4*	7/2$^-$		
2497.6 *4*	(3/2$^-$)		
2509.7 *11*	9/2$^+$		E(level): from 1972Sz01 and 1979Vo01.
2512.0 *8*	1/2,3/2,5/2		
2534.6 *6*	(5/2)$^-$		E(level): 1975Kr10 give a level at 2533.7 *20*.
2678.6[‡] *6*	11/2$^-$		
2682.1 *8*	(1/2$^-$,3/2$^-$)		
2696.9 *5*	1/2$^-$,3/2$^-$		
2716.9 *4*	3/2$^-$,5/2$^-$		
2779.5 *4*	(1/2$^-$,3/2$^-$)		
2806.8 *8*	3/2$^-$		
2831.3[‡] *8*	5/2$^-$,7/2$^-$		

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^{62}Ni(p,γ) (continued)

^{63}Cu Levels (continued)

E(level)[†]	Jπ	Comments
2857.1 *6*	(1/2$^-$,3/2$^-$)	
2887.1 *6*		E(level): from 1972Ki15.
2888.9 *5*	1/2$^-$,3/2,5/2$^-$	
2956.2[‡] *8*		
2977.8 *6*	1/2$^-$,3/2$^-$,5/2$^-$	
3043.1 *4*	(5/2$^-$)	
3101.1 *5*	1/2$^-$,3/2$^-$	
3128.7[‡] *8*	$^-$	
3225.3[‡] *6*	(5/2$^-$)	
3263.6[‡] *6*	($^-$)	
3292.4[‡] *6*		
3298.1 *8*		
3307.1 *5*	(3/2$^+$)	
3309.6 *5*	($^+$)	
3406.3 *8*		
3418.4 *8*		
3429.9 *6*		
3461.3 *8*		
3465.1 *8*		
3476.1 *10*	(3/2$^+$,5/2$^+$)	
3541.1 *8*		
3570.1 *10*		
3581.1 *8*	$^-$	
3649.0 *8*		
3656.8[‡] *8*		
3719.1 *6*	$^+$	
3740.2 *8*	$^+$	
3774.2 *6*		
3786.3 *5*	1/2$^-$,3/2$^-$	
3867.1 *11*		
3885.68 *11*	5/2$^-$,7/2$^-$	
3897.1 *10*		
3902.1[‡] *10*		
3960.1[‡] *10*		
3978.2 *8*		
4017.1 *10*		
4055.1 *8*		
4113.1 *10*		
4119.1[‡] *10*	1/2$^+$	
4125.3 *6*		
4133.1 *8*		
4145.1 *8*		
4148.1 *11*		
4226.2 *6*	(5/2$^-$,7/2$^-$)	
4285.1 *11*		
4289.1 *8*		
4354.75 *15*		
4358.1 *6*		
4382.2 *10*		
4403.1 *8*		
4420.4 *8*		
4457.1 *6*		
4470.78 *9*		
4498.1 *8*		

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^{62}Ni(p,γ) (continued)

^{63}Cu Levels (continued)

E(level)[†]	J$^{\pi}$	Comments
4501.2 *10*		
4506.4 *11*		
4517.1 *8*		
4531.2 *11*		
4593.2 *11*		
4640.2 *10*		
4644.2 *8*		
4647.2 *10*		
4691.80 *12*		
4753.3 *11*		
4789.2 *10*	(1/2$^+$)	
4796.2 *11*		
4806.1 *11*		
4810.2 *10*		
4839.2 *10*		
4870.3 *8*		
4876.65 *25*		
4955.3 *6*		
5016.2 *11*		
5053.2 *10*		
5073.2 *10*		
5101.2 *10*		
5140.2 *10*		
5162.2 *10*		
5226.2 *10*		
5274.2 *10*		
5312.2 *10*		
5335.6 *11*		
5366.2 *10*	(1/2$^+$)	
5543.2 *11*		
5571.5 *11*		
5579.3 *10*		
5592.3 *10*		
5602.2 *11*		
5735.3 *10*		
5797.3 *10*		
5804.3 *10*		
5828.3 *10*	(5/2$^-$,7/2$^-$)	
5867.63 *15*		
6093.3 *10*		
6375.3 *10*		
7400.0 *5*	1/2	E(level),J$^{\pi}$: from 1972Ki15, E(p)=1298.
7472.7 *5*	1/2	E(level),J$^{\pi}$: from 1972Ki15, 1968Tr04. E(p)=1372.
7513.2 *4*	(3/2)	E(level): E(p)=1413 (1972Ki15,1968Tr04). J$^{\pi}$: from 1972Ki15. J=1/2 in 1968Tr04.
7529.8 *4*	1/2	E(level),J$^{\pi}$: from 1972Ki15, E(p)=1430.
7605.7 *4*	(1/2)	E(level): E(p)=1507 (1972Ki15,1968Tr04). J$^{\pi}$: from 1968Tr04.
7730.2	(1/2)	E(level),J$^{\pi}$: from 1968Tr04, E(p)=1634.
8564.66 *24*	1/2$^-$	E(level): E(p)=2481; IAS(^{63}Ni g.s.); Γ_{γ}=1.5 eV (1975Kr10), 1.02 eV (1974Ra07). Probably includes J=3/2 or 5/2 resonance (1977Kr05).
8594.2		E(level): E(p)=2512 (1975Kr06).
8628.8 *4*	5/2$^-$	E(level): E(p)=2546; IAS(^{63}Ni 87 level); Γ_{γ}=0.13 eV (1975Kr10).
8639.0 *3*	5/2$^-$	E(level): E(p)=2556; IAS(^{63}Ni 87 level); Γ_{γ}=0.35 eV (1975Kr10).
8693.7 *6*	3/2$^-$	E(level): E(p)=2612.3; IAS(^{63}Ni 156 level); Γ_{γ}=0.13 eV (1974Wi15).
8700.7 *6*	3/2$^-$	E(level): E(p)=2619.3; IAS(^{63}Ni 156 level); Γ_{γ}=0.04 eV (1974Wi15).

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^{62}Ni(p,γ) (continued)

^{63}Cu Levels (continued)

E(level)†	Jπ	Comments
8718.6 *8*	(3/2$^-$)	E(level): E(p)=2637.6; IAS(^{63}Ni 156 level); Γ_γ=0.19 eV (1974Wi15).
8719.1 *8*	(3/2$^-$)	E(level): E(p)=2638.5; IAS(^{63}Ni 156 level); Γ_γ=0.03 eV (1974Wi15).
8719.2 *5*	(3/2$^-$)	E(level): E(p)=2639.0; IAS(^{63}Ni 156 level); Γ_γ=0.13 eV (1974Wi15).
8727.5 *5*	3/2$^-$	E(level): E(p)=2646.6; IAS(^{63}Ni 156 level); Γ_γ=0.26 eV (1974Wi15).
8731.7 *6*	(3/2$^-$)	E(level): E(p)=2650.8; IAS(^{63}Ni 156 level); Γ_γ=0.15 eV (1974Wi15).
8734.6 *6*	(3/2$^-$)	E(level): E(p)=2653.6; IAS(^{63}Ni 156 level); Γ_γ=0.16 eV (1974Wi15).
8738.6 *5*	(3/2$^-$)	E(level): E(p)=2658.4; IAS(^{63}Ni 156 level); Γ_γ=0.09 eV (1974Wi15).
8743.2 *6*	3/2$^-$	E(level): E(p)=2661.7; IAS(^{63}Ni 156 level); Γ_γ=0.34 eV (1974Wi15).
8743.6 *5*	3/2$^-$	E(level): E(p)=2663.1; IAS(^{63}Ni 156 level); Γ_γ=0.38 eV (1974Wi15).
8746.6 *6*	(3/2$^-$)	E(level): E(p)=2666.4; IAS(^{63}Ni 156 level); Γ_γ=0.04 eV (1974Wi15).
8747.6 *6*	3/2$^-$	E(level): E(p)=2667.5; IAS(^{63}Ni 156 level); Γ_γ=0.09 eV (1974Wi15).
8750.6 *6*	(3/2$^-$)	E(level): E(p)=2670.4; IAS(^{63}Ni 156 level); Γ_γ=0.11 eV (1974Wi15).
9811.2 *15*		E(level): E(p)=3751 *4* (1972Sz01); not 9/2$^+$ (1976Ar01). $\Gamma_p\Gamma(7301\gamma)/\Gamma$=0.10 eV *4* (1972Sz01).
9834.2 *15*		E(level): E(p)=3774 *4* (1972Sz01). $\Gamma_p\Gamma(7324\gamma)/\Gamma$=0.21 eV *5* (1972Sz01).
9846.2 *15*		E(level): E(p)=3786 *4* (1972Sz01); not 9/2$^+$ (1976Ar01). $\Gamma_p\Gamma(7336\gamma)/\Gamma$=0.45 eV *5* (1972Sz01).
9859.2 *15*		$\Gamma_p\Gamma(7349\gamma)/\Gamma$=0.66 eV *6* (1972Sz01). E(level): E(p)=3799 (1979Vo01), E(p)=3790 *4* (1972Sz01). Jπ: 9/2$^+$ IAS (1972Sz01); not 9/2$^+$ IAS (1979Vo01,1976Ar01).
9864.2 *4*		E(level): E(p)=3804 (1979Vo01), E(p)=3806 *4* (1972Sz01). Jπ: 9/2$^+$ IAS (1972Sz01); not 9/2$^+$ IAS (1979Vo01,1976Ar01). $\Gamma_p\Gamma(7354\gamma)/\Gamma$=0.24 eV *4* (1972Sz01).

† For E<7000, level energies are taken from 1986De14, except where noted otherwise; for E>7000, E(level) are calculated from E(p)(c.m.)+S(p).
‡ From 1975Kr10.

γ(^{63}Cu)

E_i(level)	J^π_i	E_γ†	I_γ‡	E_f	J^π_f	Comments
669.96	1/2$^-$	670	100	0	3/2$^-$	
962.05	5/2$^-$	962	100	0	3/2$^-$	
1326.6	7/2$^-$	365	16.2 *3*	962.05	5/2$^-$	δ: +0.073 *22* (1977Ek03).
		1327	83.8 *3*	0	3/2$^-$	
1411.4	5/2$^-$	449	21.8 *3*	962.05	5/2$^-$	δ: −0.87 *+19−25* or −0.32 *+14−17* (1977Ek03).
		741@	6.5 *3*	669.96	1/2$^-$	
		1411	71.7 *3*	0	3/2$^-$	δ: −4.5 *+6−7* or −0.57 *+4−7* (1977Ek03).
1547.22	3/2$^-$	585@	21.5 *4*	962.05	5/2$^-$	δ: $\delta\leq$−4, or $\delta\geq$9.5, or −0.29 *+17−22* (1977Ek03).
		877	2.2 *3*	669.96	1/2$^-$	
		1547	76.2 *4*	0	3/2$^-$	δ: +0.3 *1* (1972Ki15); −3.7 *+7−10* or −0.01 *5* (1977Ek03).
1861.3	7/2$^-$	899	45 *1*	962.05	5/2$^-$	
		1861	55 *1*	0	3/2$^-$	
2011.6	3/2$^-$	464	2.2 *4*	1547.22	3/2$^-$	
		600	1.9 *5*	1411.4	5/2$^-$	
		1049	25.3 *5*	962.05	5/2$^-$	
		1342	22.2 *5*	669.96	1/2$^-$	
		2011	48 *1*	0	3/2$^-$	
2061.9	(1/2)$^-$	515	36.3 *6*	1547.22	3/2$^-$	
		1392	47.7 *5*	669.96	1/2$^-$	

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^{62}Ni(p,γ) (continued)

γ(^{63}Cu) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π
2061.9	$(1/2)^-$	2062	15.9 *5*	0	$3/2^-$
2081.0	$5/2^{(-)}$	534	10 *1*	1547.22	$3/2^-$
		754	27 *2*	1326.6	$7/2^-$
		1119	24 *1*	962.05	$5/2^-$
		2081	39 *1*	0	$3/2^-$
2092.1	$7/2^-$	681	<5	1411.4	$5/2^-$
		765	40 *1*	1326.6	$7/2^-$
		1130	52 *1*	962.05	$5/2^-$
		2092	9 *1*	0	$3/2^-$
2336.4	$5/2^-$	475	<5	1861.3	$7/2^-$
		925	8 *1*	1411.4	$5/2^-$
		1375	22 *2*	962.05	$5/2^-$
		1667	<3	669.96	$1/2^-$
		2337	70 *1*	0	$3/2^-$
2404.7	$7/2^-$	323	<6	2081.0	$5/2^{(-)}$
		342	<6	2061.9	$(1/2)^-$
		393	<6	2011.6	$3/2^-$
		543	<5	1861.3	$7/2^-$
		858	<5	1547.22	$3/2^-$
		994	22 *3*	1411.4	$5/2^-$
		1078	35 *3*	1326.6	$7/2^-$
		1443	43 *4*	962.05	$5/2^-$
		1735	<6	669.96	$1/2^-$
		2405	<10	0	$3/2^-$
2497.6	$(3/2^-)$	1086	1.5 *2*	1411.4	$5/2^-$
		1535	2.4 *2*	962.05	$5/2^-$
		1827	14.0 *3*	669.96	$1/2^-$
		2498	82.1 *3*	0	$3/2^-$
2512.0	1/2,3/2,5/2	1842	6.6 *2*	669.96	$1/2^-$
		2512	93.4 *2*	0	$3/2^-$
2534.6	$(5/2)^-$	1573	80[#]	962.05	$5/2^-$
		2534	20[#]	0	$3/2^-$
2678.6	$11/2^-$	1129	66[#]	1547.22	$3/2^-$
		1719	34[#]	962.05	$5/2^-$
2682.1	$(1/2^-,3/2^-)$	2012	72 *6*	669.96	$1/2^-$
2696.9	$1/2^-,3/2^-$	686	3.7 *5*	2011.6	$3/2^-$
		1150	15.7 *5*	1547.22	$3/2^-$
		2027	46 *1*	669.96	$1/2^-$
		2697	34 *1*	0	$3/2^-$
2779.5	$(1/2^-,3/2^-)$	718	3.7 *3*	2061.9	$(1/2)^-$
		1233	13 *1*	1547.22	$3/2^-$
		2110	26 *1*	669.96	$1/2^-$
		2780	57 *1*	0	$3/2^-$
2806.8	$3/2^-$	1480	27 *3*	1326.6	$7/2^-$
		2807	73 *3*	0	$3/2^-$
2831.3	$5/2^-,7/2^-$	2831	100[#]	0	$3/2^-$
2857.1	$(1/2^-,3/2^-)$	1446	31 *1*	1411.4	$5/2^-$
		1895	11 *2*	962.05	$5/2^-$
		2187	22 *1*	669.96	$1/2^-$
		2857	35 *1*	0	$3/2^-$
2887.1		2888		0	$3/2^-$
2888.9	$1/2^-,3/2,5/2^-$	808	10 *1*	2081.0	$5/2^{(-)}$
		1927	52 *2*	962.05	$5/2^-$
		2219	16 *1*	669.96	$1/2^-$

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^{62}Ni(p,γ) (continued)

γ(^{63}Cu) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π
2888.9	1/2$^-$,3/2,5/2$^-$	2889	22 *2*	0	3/2$^-$
2956.2		2956	100[#]	0	3/2$^-$
2977.8	1/2$^-$,3/2$^-$,5/2$^-$	2307	15 *1*	669.96	1/2$^-$
		2977	85 *1*	0	3/2$^-$
3043.1	(5/2$^-$)	546	7 *1*	2497.6	(3/2$^-$)
		1496	8 *1*	1547.22	3/2$^-$
		2373	6 *1*	669.96	1/2$^-$
		3043	78 *1*	0	3/2$^-$
3101.1	1/2$^-$,3/2$^-$	2431	45 *1*	669.96	1/2$^-$
		3101	55 *1*	0	3/2$^-$
3128.7	$^-$	1118	100[#]	2011.6	3/2$^-$
3225.3	(5/2$^-$)	2558	66[#]	669.96	1/2$^-$
		3224	34[#]	0	3/2$^-$
3263.6	($^-$)	2591	40[#]	669.96	1/2$^-$
		3264	60[#]	0	3/2$^-$
3292.4		3292	100[#]	0	3/2$^-$
3298.1		2628	78 *3*	669.96	1/2$^-$
		3298	22 *2*	0	3/2$^-$
3307.1	(3/2$^+$)	1245	29 *2*	2061.9	(1/2)$^-$
		1296	14 *1*	2011.6	3/2$^-$
		2345	32 *2*	962.05	5/2$^-$
		2637	15 *1*	669.96	1/2$^-$
		3307	8 *2*	0	3/2$^-$
3309.6	($^+$)	1763	100	1547.22	3/2$^-$
		3309	100	0	3/2$^-$
3406.3		3406	98 *2*	0	3/2$^-$
3418.4		921	38 *1*	2497.6	(3/2$^-$)
		3418	62 *1*	0	3/2$^-$
3429.9		2468	19 *1*	962.05	5/2$^-$
		3430	81 *1*	0	3/2$^-$
3461.3		3461		0	3/2$^-$
3465.1		2795	47 *1*	669.96	1/2$^-$
		3465	55 *2*	0	3/2$^-$
3476.1	(3/2$^+$,5/2$^+$)	3476	68 *5*	0	3/2$^-$
3541.1		2579	25 *4*	962.05	5/2$^-$
		3541	51 *7*	0	3/2$^-$
3570.1		3570	57 *6*	0	3/2$^-$
3581.1	$^-$	2911	63 *3*	669.96	1/2$^-$
		3581	37 *3*	0	3/2$^-$
3649.0		1588	5.8 *4*	2061.9	(1/2)$^-$
		2978	71 *5*	669.96	1/2$^-$
3656.8		3656	100[#]	0	3/2$^-$
3719.1	$^+$	2757	35 *1*	962.05	5/2$^-$
		3049	38 *1*	669.96	1/2$^-$
		3719	9 *1*	0	3/2$^-$
3740.2	$^+$	2193	36 *2*	1547.22	3/2$^-$
		3740	64 *2*	0	3/2$^-$
3774.2		1712	20 *2*	2061.9	(1/2)$^-$
		3774	49 *2*	0	3/2$^-$
3786.3	1/2$^-$,3/2$^-$	1104	5.4 *4*	2682.1	(1/2$^-$,3/2$^-$)
		1775	2.9 *5*	2011.6	3/2$^-$
		2375	19 *1*	1411.4	5/2$^-$
		2824	14 *1*	962.05	5/2$^-$
		3116	50 *1*	669.96	1/2$^-$

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^{62}Ni(p,γ) (continued)

γ(^{63}Cu) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π
3867.1		2905	75 *7*	962.05	5/2$^-$
3897.1		3897	94 *2*	0	3/2$^-$
3902.1		3902	100[#]	0	3/2$^-$
3960.1		3960	100[#]	0	3/2$^-$
3978.2		1916	14 *1*	2061.9	(1/2)$^-$
		1967	36 *3*	2011.6	3/2$^-$
4017.1		4017	51 *2*	0	3/2$^-$
4055.1		3385	31 *5*	669.96	1/2$^-$
		4055	48 *4*	0	3/2$^-$
4113.1		4113	84 *7*	0	3/2$^-$
4119.1	1/2$^+$	4119	100[#]	0	3/2$^-$
4125.3		2114	10 *2*	2011.6	3/2$^-$
		2578	17 *2*	1547.22	3/2$^-$
		4125	18 *2*	0	3/2$^-$
4133.1		3171	30 *2*	962.05	5/2$^-$
		4133	18 *6*	0	3/2$^-$
4145.1		3183	44 *3*	962.05	5/2$^-$
		4145	45 *3*	0	3/2$^-$
4148.1		3478	23 *6*	669.96	1/2$^-$
4226.2	(5/2$^-$,7/2$^-$)	2815	17 *2*	1411.4	5/2$^-$
		3264	50 *3*	962.05	5/2$^-$
		4226	12 *1*	0	3/2$^-$
4285.1		3323	27 *3*	962.05	5/2$^-$
4289.1		3327	16 *2*	962.05	5/2$^-$
		4289	66 *3*	0	3/2$^-$
4358.1		3396	6 *1*	962.05	5/2$^-$
		3688	64 *3*	669.96	1/2$^-$
		4358	13 *2*	0	3/2$^-$
4382.2		4382	18 *5*	0	3/2$^-$
4403.1		3441	16 *3*	962.05	5/2$^-$
		3733	17 *4*	669.96	1/2$^-$
4420.4		2409	25 *3*	2011.6	3/2$^-$
		4420	49 *7*	0	3/2$^-$
4457.1		2395	11 *2*	2061.9	(1/2)$^-$
		3787	11 *2*	669.96	1/2$^-$
		4457	18 *3*	0	3/2$^-$
4498.1		3828	54 *5*	669.96	1/2$^-$
		4498	32 *9*	0	3/2$^-$
4501.2		4501	92 *13*	0	3/2$^-$
4506.4		3095	26 *1*	1411.4	5/2$^-$
4517.1		3847	31 *4*	669.96	1/2$^-$
		4517	9 *3*	0	3/2$^-$
4531.2		3569	71 *9*	962.05	5/2$^-$
4593.2		3631	17 *2*	962.05	5/2$^-$
4640.2		4640	51 *9*	0	3/2$^-$
4644.2		3097	45 *5*	1547.22	3/2$^-$
		4644	30 *2*	0	3/2$^-$
4647.2		4647	57 *5*	0	3/2$^-$
4753.3		3206	50 *13*	1547.22	3/2$^-$
4789.2	(1/2$^+$)	4789	18 *3*	0	3/2$^-$
4796.2		3834	30 *5*	962.05	5/2$^-$
4806.1		4136	80 *4*	669.96	1/2$^-$
4810.2		4810	47 *7*	0	3/2$^-$
4839.2		4839	59 *12*	0	3/2$^-$
4870.3		3459	33 *3*	1411.4	5/2$^-$

Continued on next page (footnotes at end of table)

^{62}Ni(p,γ) (continued)

γ(^{63}Cu) (continued)

E_i(level)	J_i^π	E_γ †	I_γ ‡	E_f	J_f^π	Comments
4870.3		3908	50 *4*	962.05	$5/2^-$	
4955.3		2874	29 *3*	2081.0	$5/2^{(-)}$	
		2944	25 *3*	2011.6	$3/2^-$	
		4955	10 *2*	0	$3/2^-$	
5016.2		4054	51 *4*	962.05	$5/2^-$	
5053.2		5053	38 *9*	0	$3/2^-$	
5073.2		5073	79 *16*	0	$3/2^-$	
5101.2		5101	84 *7*	0	$3/2^-$	
5140.2		5140	16 *6*	0	$3/2^-$	
5162.2		5162	42 *3*	0	$3/2^-$	
5226.2		5226	20 *4*	0	$3/2^-$	
5274.2		5274	36 *24*	0	$3/2^-$	
5312.2		5312	28 *3*	0	$3/2^-$	
5335.6		3324	27 *6*	2011.6	$3/2^-$	
5366.2	$(1/2^+)$	5366	80 *8*	0	$3/2^-$	
5543.2		4581	46 *8*	962.05	$5/2^-$	
5571.5		4160	43 *5*	1411.4	$5/2^-$	
5579.3		5579	78 *11*	0	$3/2^-$	
5592.3		5592	47 *14*	0	$3/2^-$	
5602.2		4932	34 *4*	669.96	$1/2^-$	
5735.3		5735	84 *19*	0	$3/2^-$	
5797.3		5797	55 *11*	0	$3/2^-$	
5804.3		5804	69 *15*	0	$3/2^-$	
5828.3	$(5/2^-,7/2^-)$	5828	44 *5*	0	$3/2^-$	
6093.3		6093	31 *14*	0	$3/2^-$	
6375.3		6375	76 *16*	0	$3/2^-$	
7400.0	1/2	5387	5	2011.6	$3/2^-$	
		5853	7	1547.22	$3/2^-$	
		5988	<1	1411.4	$5/2^-$	
		6730	28	669.96	$1/2^-$	
		7400	59	0	$3/2^-$	
7472.7	1/2	4371	7	3101.1	$1/2^-,3/2^-$	
		4584	3	2888.9	$1/2^-,3/2,5/2^-$	
		4693	4	2779.5	$(1/2^-,3/2^-)$	
		4975	8	2497.6	$(3/2^-)$	
		5925	20	1547.22	$3/2^-$	
		7472	58	0	$3/2^-$	
7513.2	(3/2)	4411	8	3101.1	$1/2^-,3/2^-$	
		4624	3	2888.9	$1/2^-,3/2,5/2^-$	
		4734	7	2779.5	$(1/2^-,3/2^-)$	
		5015	6	2497.6	$(3/2^-)$	
		5966	20	1547.22	$3/2^-$	
		6101	4	1411.4	$5/2^-$	
		6551	2	962.05	$5/2^-$	
		6843	43	669.96	$1/2^-$	δ: −5 *2* or +0.3 *1* (1972Ki15).
		7513	7	0	$3/2^-$	
7529.8	1/2	4751	3	2779.5	$(1/2^-,3/2^-)$	
		5032	8	2497.6	$(3/2^-)$	
		5467	5	2061.9	$(1/2)^-$	
		5669	2	1861.3	$7/2^-$	
		5982	8	1547.22	$3/2^-$	
		6118	4	1411.4	$5/2^-$	
		6202	3	1326.6	$7/2^-$	
		6567	9	962.05	$5/2^-$	
		6860	54	669.96	$1/2^-$	

Continued on next page (footnotes at end of table)

^{62}Ni(p,γ) (continued)

γ(^{63}Cu) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π
7529.8	1/2	7529	3	0	$3/2^-$
7605.7	(1/2)	4562	3	3043.1	$(5/2^-)$
		4910	4	2696.9	$1/2^-,3/2^-$
		5108	7	2497.6	$(3/2^-)$
		5543	2	2061.9	$(1/2)^-$
		6058	9	1547.22	$3/2^-$
		6935	39	669.96	$1/2^-$
		7605	35	0	$3/2^-$
8564.66	$1/2^-$	4790	1.7	3774.2	
		4907	2.9	3656.8	
		5103	2.4	3461.3	
		5135	3.1	3429.9	
		5158	2.3	3406.3	
		5255	4.9	3309.6	$(^+)$
		5272	3.7	3292.4	
		5300	1.0	3263.6	$(^-)$
		5340	3.1	3225.3	$(5/2^-)$
		5464	2.9	3101.1	$1/2^-,3/2^-$
		5522	2.3	3043.1	$(5/2^-)$
		5585	1.7	2977.8	$1/2^-,3/2^-,5/2^-$
		5608	2.2	2956.2	
		5678	2.2	2887.1	
		5867	3.3	2696.9	$1/2^-,3/2^-$
		5886	6.5	2678.6	$11/2^-$
		6030	0.5	2534.6	$(5/2)^-$
		6066	6.5	2497.6	$(3/2^-)$
		6159	1.2	2404.7	$7/2^-$
		6504	5.0	2061.9	$(1/2)^-$
		6552	2.4	2011.6	$3/2^-$
		7017	11.1	1547.22	$3/2^-$
		7153	3.6	1411.4	$5/2^-$
		7602	1.7	962.05	$5/2^-$
		7895	7.2	669.96	$1/2^-$
		8564	14.4	0	$3/2^-$
8628.8	$5/2^-$	5319	6	3309.6	$(^+)$
		5797	8	2831.3	$5/2^-,7/2^-$
		6616	11	2011.6	$3/2^-$
		6768	8	1861.3	$7/2^-$
		7081	18	1547.22	$3/2^-$
		7217	9	1411.4	$5/2^-$
		7302	9	1326.6	$7/2^-$
		7666	16	962.05	$5/2^-$
		7959	2	669.96	$1/2^-$
		8628	14	0	$3/2^-$
8639.0	$5/2^-$	5329	7.2	3309.6	$(^+)$
		5346	3.2	3292.4	
		5374	3.7	3263.6	$(^-)$
		5414	2.6	3225.3	$(5/2^-)$
		5511	2.6	3128.7	$^-$
		5538	2.6	3101.1	$1/2^-,3/2^-$
		5596	4.6	3043.1	$(5/2^-)$
		5752	2.0	2887.1	
		5860	3.4	2779.5	$(1/2^-,3/2^-)$
		5960	2.3	2678.6	$11/2^-$
		6104	6.3	2534.6	$(5/2)^-$
		6140	4.3	2497.6	$(3/2^-)$

Continued on next page (footnotes at end of table)

^{62}Ni(p,γ) (continued)

γ(^{63}Cu) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Comments
8639.0	5/2$^-$	6304	2.5	2336.4	5/2$^-$	
		6558	3.2	2081.0	5/2$^{(-)}$	
		6578	3.2	2061.9	(1/2)$^-$	
		6625	2.3	2011.6	3/2$^-$	
		7091	7.5	1547.22	3/2$^-$	δ: −0.38 *+9−2* (1977Kr05).
		7227	8.3	1411.4	5/2$^-$	δ: −0.2 *1* (1977Kr05).
		7312	4.0	1326.6	7/2$^-$	δ: −0.09 *11* (1977Kr05).
		7676	8.0	962.05	5/2$^-$	δ: −0.2 *1* (1977Kr05).
		7969	3	669.96	1/2$^-$	
		8638	13	0	3/2$^-$	δ: −0.29 *1* (1977Kr05).
8693.7	3/2$^-$	6682	23	2011.6	3/2$^-$	
		8023	12	669.96	1/2$^-$	
		8693	65	0	3/2$^-$	
8700.7	3/2$^-$	7289	18	1411.4	5/2$^-$	
		8030	36	669.96	1/2$^-$	
		8700	45	0	3/2$^-$	
8718.6	(3/2$^-$)	7756	7	962.05	5/2$^-$	
		8718	93	0	3/2$^-$	
8719.1	(3/2$^-$)	7756	57	962.05	5/2$^-$	
		8719	43	0	3/2$^-$	
8719.2	(3/2$^-$)	6627	25	2092.1	7/2$^-$	
		6638	10	2081.0	5/2$^{(-)}$	
		6856	16	1861.3	7/2$^-$	
		7172	21	1547.22	3/2$^-$	
		7757	14	962.05	5/2$^-$	
		8719	14	0	3/2$^-$	
8727.5	3/2$^-$	6646	10	2081.0	5/2$^{(-)}$	
		6665	6	2061.9	(1/2)$^-$	
		7316	7	1411.4	5/2$^-$	
		8057	17	669.96	1/2$^-$	
		8727	60	0	3/2$^-$	
8731.7	(3/2$^-$)	7320	22	1411.4	5/2$^-$	
		7769	72	962.05	5/2$^-$	
		8731	6	0	3/2$^-$	
8734.6	(3/2$^-$)	7187	36	1547.22	3/2$^-$	
		7772	40	962.05	5/2$^-$	
		8064	9	669.96	1/2$^-$	
		8734	15	0	3/2$^-$	
8738.6	(3/2$^-$)	6676	21	2061.9	(1/2)$^-$	
		6727	18	2011.6	3/2$^-$	
		7776	34	962.05	5/2$^-$	
		8068	13	669.96	1/2$^-$	
		8738	13	0	3/2$^-$	
8743.2	3/2$^-$	7195	9	1547.22	3/2$^-$	
		7331	30	1411.4	5/2$^-$	
		7780	21	962.05	5/2$^-$	
		8744	39	0	3/2$^-$	
8743.6	3/2$^-$	7196	14	1547.22	3/2$^-$	
		7332	11	1411.4	5/2$^-$	
		7781	32	962.05	5/2$^-$	
		8073	17	669.96	1/2$^-$	
		8743	26	0	3/2$^-$	
8746.6	(3/2$^-$)	7784	45	962.05	5/2$^-$	
		8076	27	669.96	1/2$^-$	
		8746	28	0	3/2$^-$	

Continued on next page (footnotes at end of table)

^{62}Ni(p,γ) (continued)

$\gamma(^{63}Cu)$ (continued)

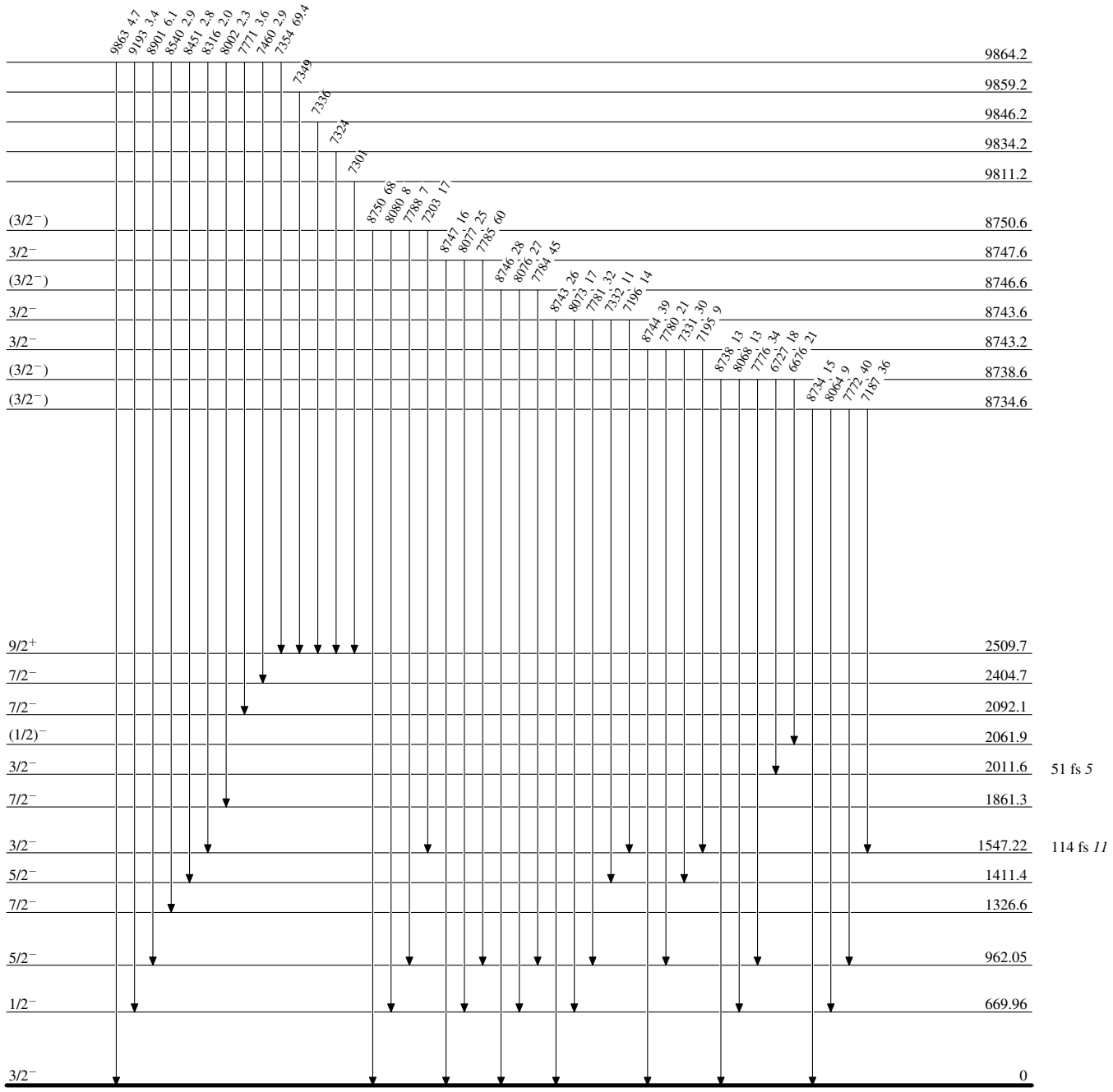
E_i(level)	J_i^π	E_γ [†]	I_γ [‡]	E_f	J_f^π	Comments
8747.6	$3/2^-$	7785	60	962.05	$5/2^-$	
		8077	25	669.96	$1/2^-$	
		8747	16	0	$3/2^-$	
8750.6	$(3/2^-)$	7203	17	1547.22	$3/2^-$	
		7788	7	962.05	$5/2^-$	
		8080	8	669.96	$1/2^-$	
		8750	68	0	$3/2^-$	
9811.2		7301		2509.7	$9/2^+$	
9834.2		7324		2509.7	$9/2^+$	
9846.2		7336		2509.7	$9/2^+$	δ: M1 from asymmetry=0.60 *10* (1972Sz01).
9859.2		7349		2509.7	$9/2^+$	δ: −1.2 *5* if J(9858)=9/2 from A_2=+0.32 *13*, A_4=−0.28 *13* (1979Vo01); M1 from asymmetry=0.60 *10* (1972Sz01).
9864.2		7354	69.4 *7*	2509.7	$9/2^+$	δ: −1.26 if J(9863)=9/2 from A_2=+0.42 *2*, A_4=−0.55 *2* (1979Vo01); however, M1 from asymmetry=0.50 *15* (1972Sz01).
		7460	2.9 *2*	2404.7	$7/2^-$	
		7771	3.6 *2*	2092.1	$7/2^-$	
		8002	2.3 *2*	1861.3	$7/2^-$	
		8316	2.0 *2*	1547.22	$3/2^-$	
		8451	2.8 *3*	1411.4	$5/2^-$	
		8540	2.9 *3*	1326.6	$7/2^-$	
		8901	6.1 *3*	962.05	$5/2^-$	
		9193	3.4 *2*	669.96	$1/2^-$	
		9863	4.7 *2*	0	$3/2^-$	

[†] Calculated from level energy difference by the evaluator.
[‡] % photon branching from each level.
[#] From 1975Kr10.
[@] Placement of transition in the level scheme is uncertain.

^{62}Ni(p,γ)

Level Scheme

Intensities: % photon branching from each level

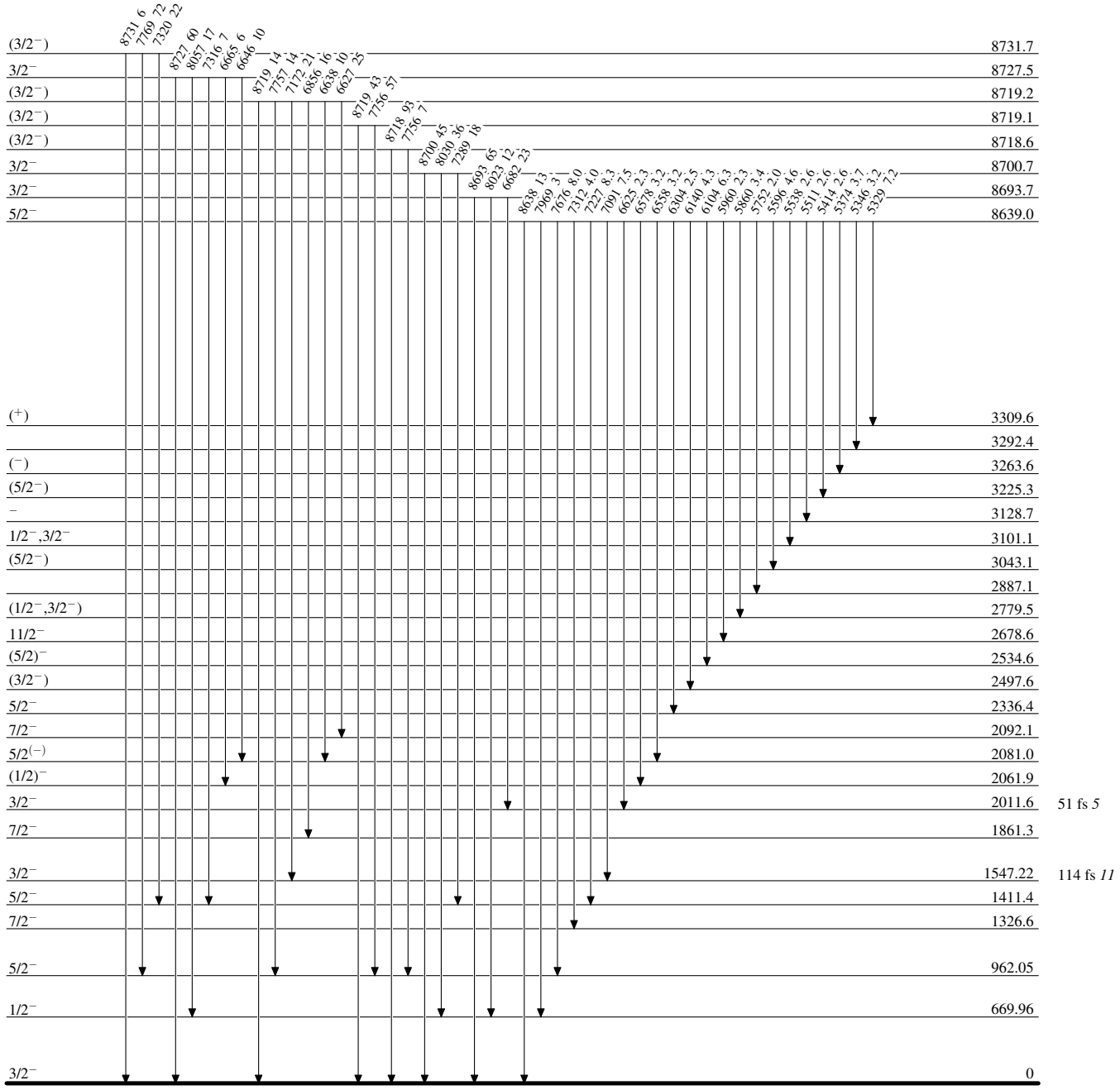


$^{63}_{29}Cu_{34}$

^{62}Ni(p,γ)

Level Scheme (continued)

Intensities: % photon branching from each level

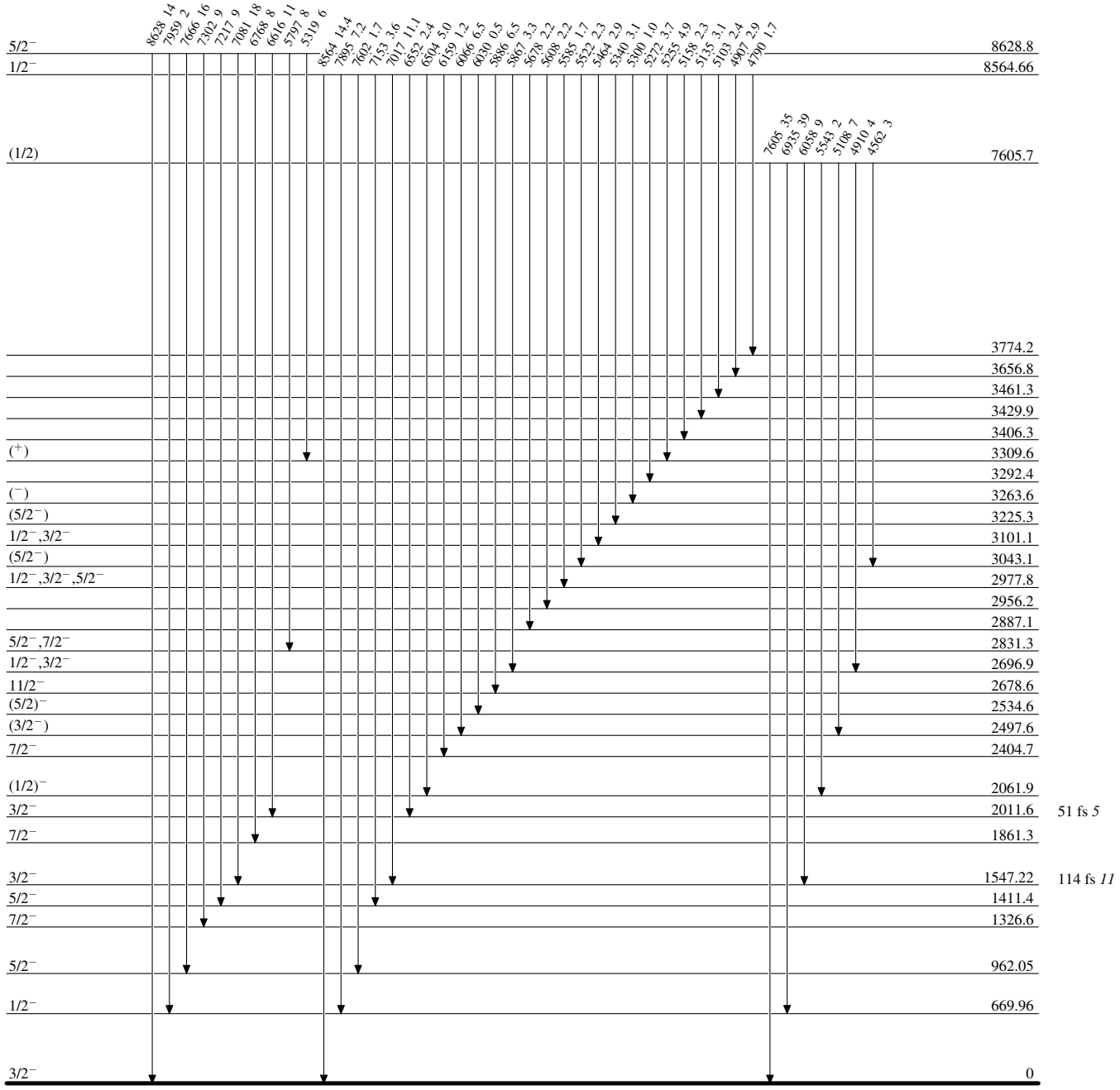


$^{63}_{29}Cu_{34}$

^{62}Ni(p,γ)

Level Scheme (continued)

Intensities: % photon branching from each level

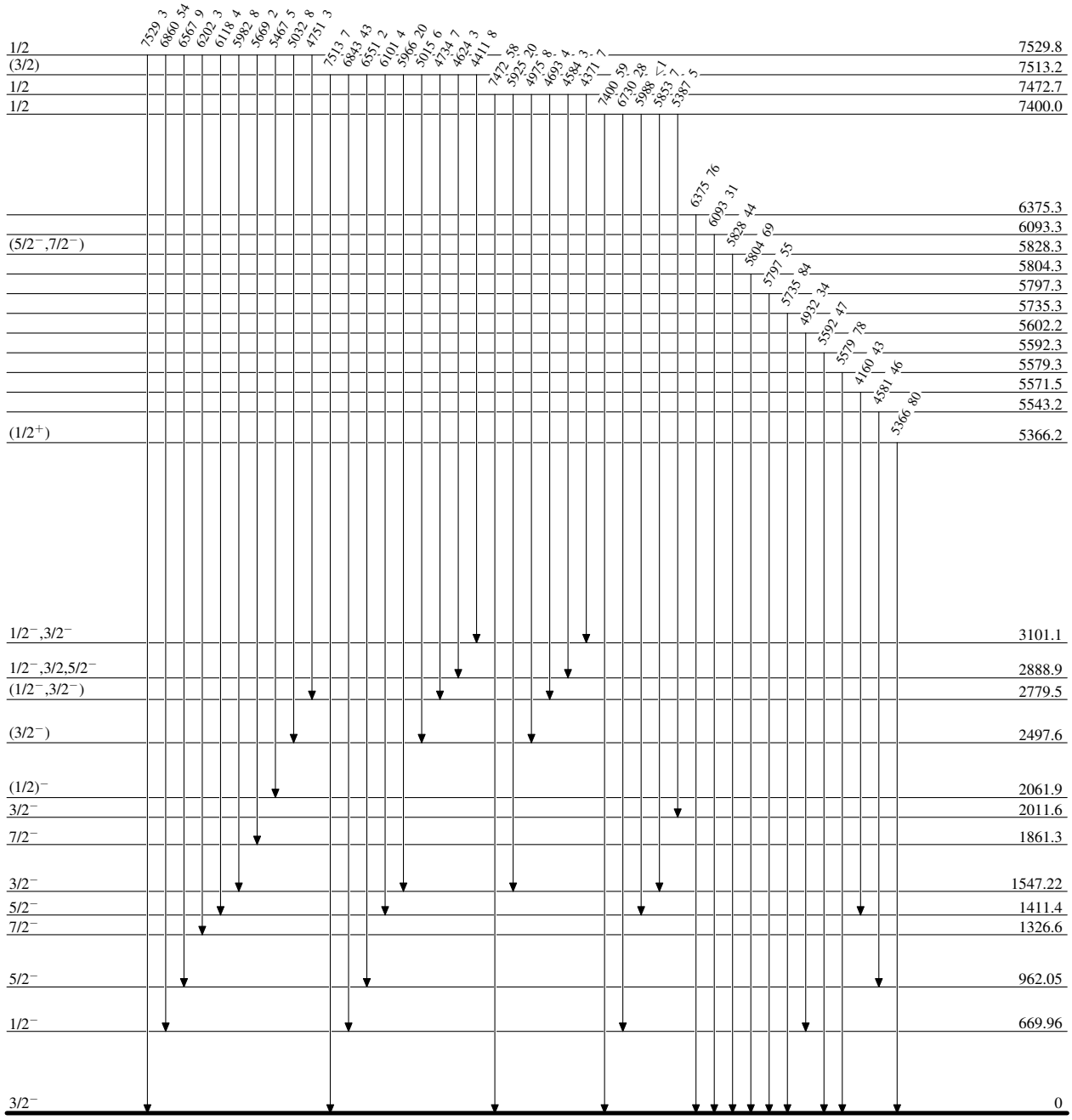


$^{63}_{29}Cu_{34}$

^{62}Ni(p,γ)

Level Scheme (continued)

Intensities: % photon branching from each level

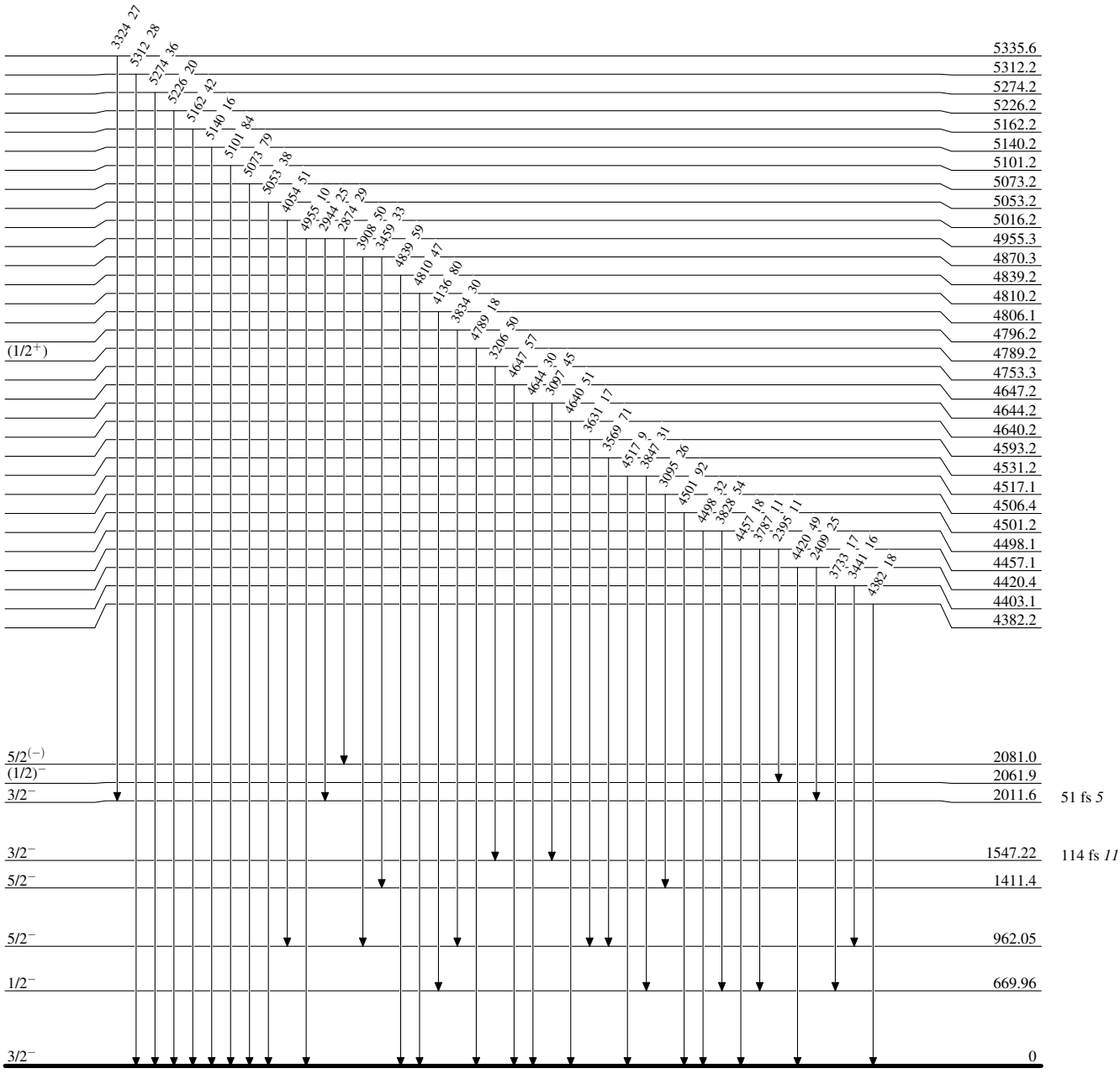


$^{63}_{29}Cu_{34}$

^{62}Ni(p,γ)

Level Scheme (continued)

Intensities: % photon branching from each level

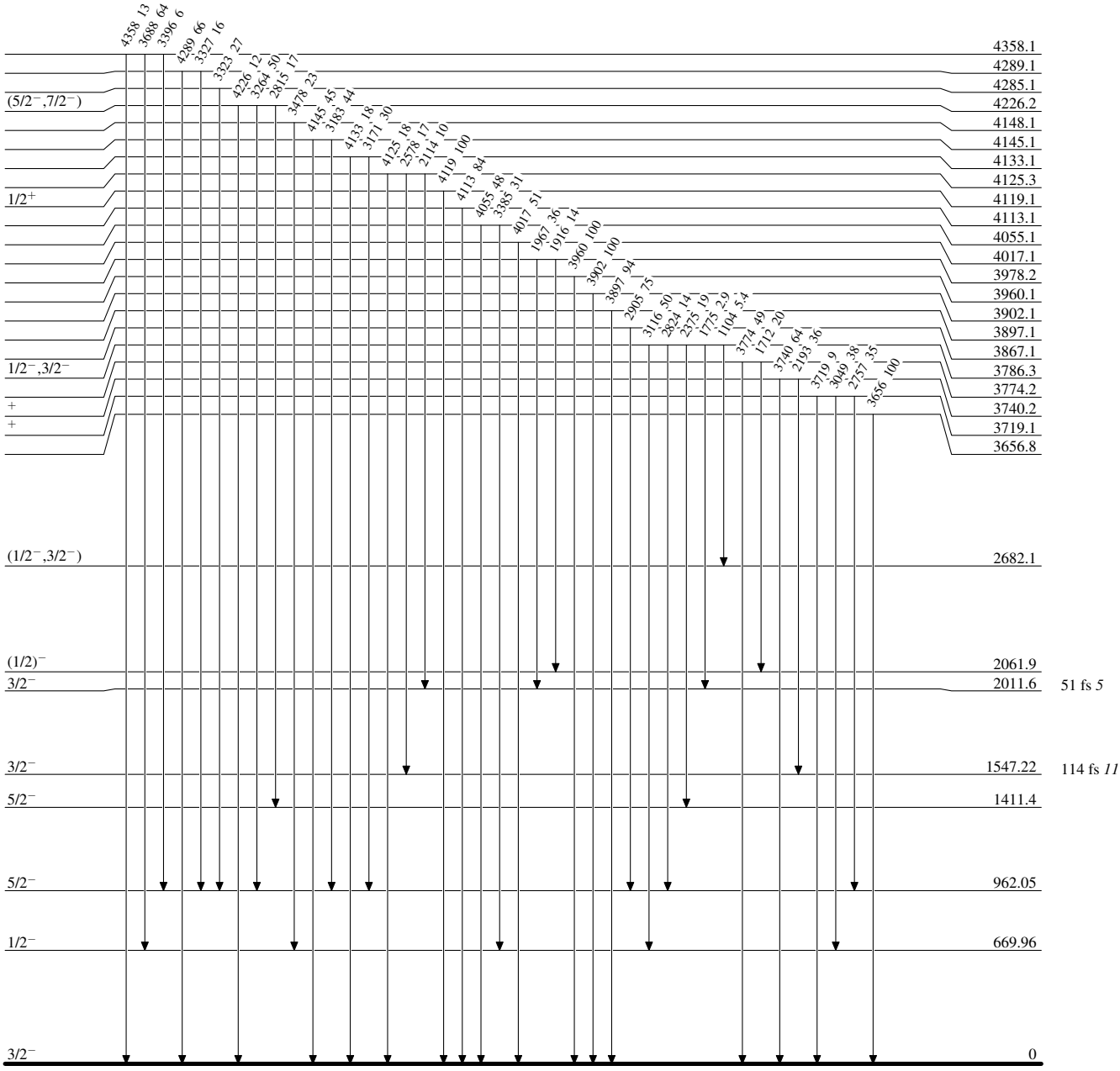


$^{63}_{29}Cu_{34}$

^{62}Ni(p,γ)

Level Scheme (continued)

Intensities: % photon branching from each level

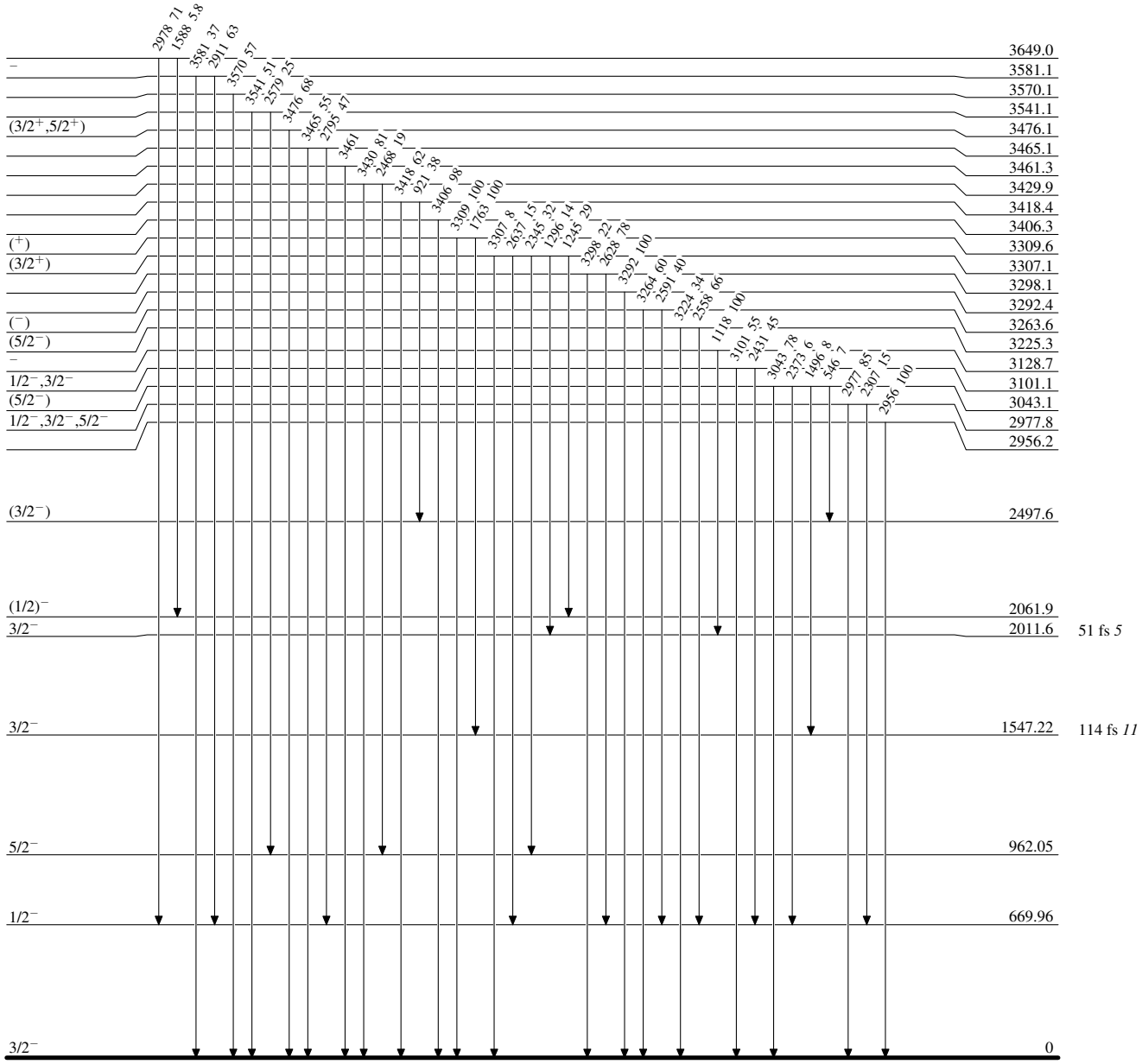


$^{63}_{29}Cu_{34}$

^{62}Ni(p,γ)

Level Scheme (continued)

Intensities: % photon branching from each level

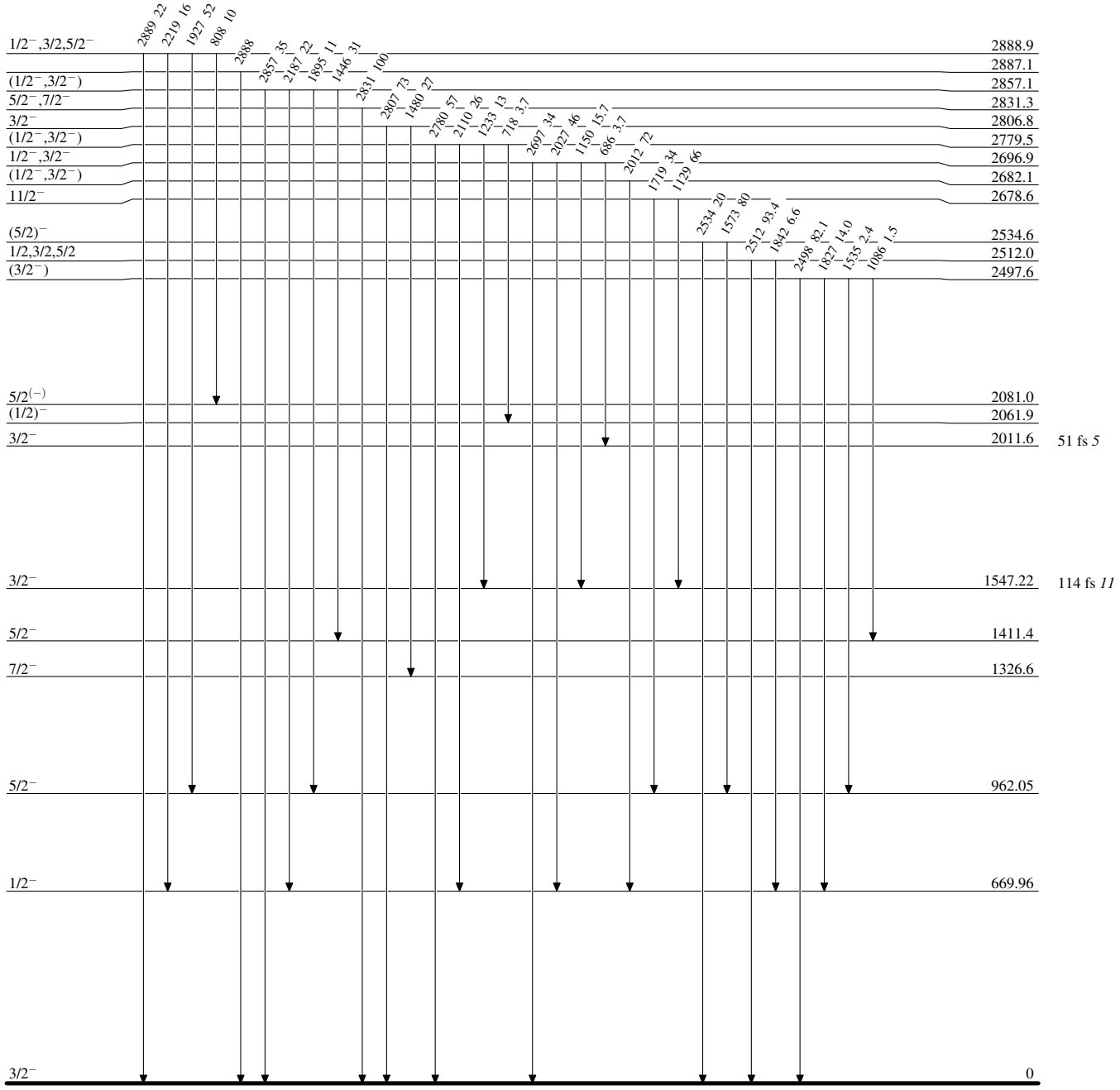


$^{63}_{29}Cu_{34}$

^{62}Ni(p,γ)

Level Scheme (continued)

Intensities: % photon branching from each level



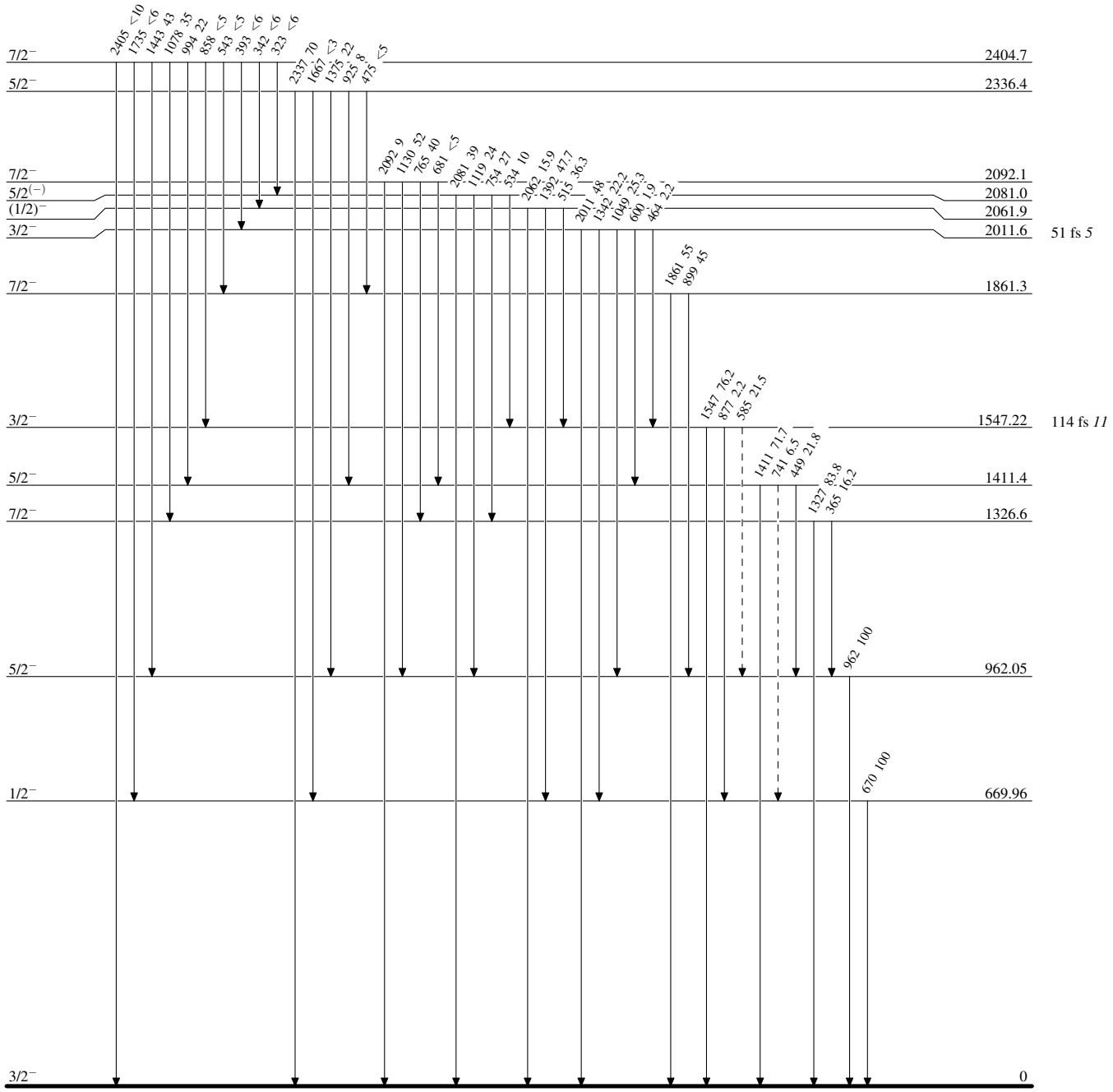
$^{63}_{29}Cu_{34}$

^{62}Ni(p,γ) Legend

Level Scheme (continued)

Intensities: % photon branching from each level

- - - - - - ► γ Decay (Uncertain)



$^{63}_{29}Cu_{34}$