^{27}Al(p,γ) 1990En02,1995Br16,1975Me14

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 114, 1189 (2013)	1-Apr-2013

Others: 1967Ca10, 1968Gi05, 1969Bi09, 1969Me14, 1970Al05, 1970Me04, 1970Fo11, 1970Ho33, 1971Da20, 1971Go41, 1971Hu04, 1971La06, 1972An10, 1972Hs06, 1973Da19, 1973Da36, 1973Ne11, 1973Mi24, 1973Ca38, 1974Al04, 1974NeZZ, 1974Da15, 1975An09, 1975Cu02, 1975Ne03, 1975Sc46, 1975Ra04, 1975Sw01, 1976Ke08, 1977An29, 1977Mi01, 1977Ke07, 1977Ra21, 1978Os04, 1978Pa03, 1978Ma23, 1978Ca30, 1978Da08, 1979Ko05, 1981Du09, 1983Ki09, 1985Zi02, 1986Gl05, 1986Hu09, 1986Pr07, 1986Zi03, 1987La17, 1987Ra23, 1988Ha04, 1988Ra15, 1988Ha33, 1989Wu06, 1990Ra18, 1993Ti02, 1994Br37, 1995Br17.

1990En02: ^{27}Al(p,γ), E=992-,1317−keV, two n-type Ge detectors and one Ge(Li) detector in Compton suppressed mode, also in unsuppressed mode with an additional Ge(Li) detector. Measured Eγ, Iγ, γ ray angular distribution. Deduced excitation energies, mean lifetime.

1995Br16: ^{27}Al(p,γ), E=1.097-4.492 MeV; NaI(Tl) and two HPGe detectors: HPGe detectors were placed at 0°, 30°, 40°, 60°, and 75° with respect to the beam direction; measured Eγ, γ ray angular distribution; ^{28}Si deduced levels, Γ, γ-ray branching, resonance strengths. Also studied ^{24}Mg(α,γ), E=1.5-4 MeV; ^{27}Al(d,nγ), E=4-6 MeV.

1975Me14: ^{27}Al(p,γ), E=0.3-2.5 MeV; measured σ(E,E$_\gamma$), I$_\gamma$(THETA), Doppler shift attenuation. Deduced ^{28}Si levels, resonance strengths, γ-ray branching ratios, mean lifetime, J$^\pi$, mixing ratios.

^{28}Si Levels

E(level)[†]	J$^\pi$	T$_{1/2}$[@]	Comments
0.0			
1779.030 *11*		610 fs *90*	
4617.86 *4*		58 fs *19*	T$_{1/2}$: Other: 38 fs *6* (1983Mi32).
4979.92 *8*		56 fs *9*	T$_{1/2}$: Others: 35 fs *3* (1993Ti02), 37 fs *9* (1978Da08).
6276.20 *7*		0.7 ps *2*	T$_{1/2}$: Others: 0.9 ps *1* (1993Ti02), 0.9 fs *3* (1978Da08), 0.7 ps *2* (1983Mi32).
6690.74 *15*		147 fs *10*	E(level),T$_{1/2}$: From 1993Ti02. Other: 87 fs *21* (1978Da08).
6878.79 *8*		>2.6 ps	
6887.65 *10*		19 fs *6*	T$_{1/2}$: Others: 34 fs *2* (1993Ti02), 46 fs *7* (1983Mi32).
7380.59 *9*		3.0 fs *7*	T$_{1/2}$: From 1993Ti02. Others: <10.4 fs (1990En02), 5 fs *3* (1978Da08).
7416.26 *9*		35 fs *6*	T$_{1/2}$: From 1993Ti02. Other: 31 fs *7* (1978Da08).
7799.01 *9*		236 fs *10*	T$_{1/2}$: From 1993Ti02. Others: 166 fs *31* (1990En02), 208 fs *52* (1978Da08).
7933.45 *10*		9.7 fs *14*	T$_{1/2}$: Others: 11.8 fs *14* (1993Ti02), 10 fs *7* (1978Da08).
8258.74 *10*		8.3 fs *3*	T$_{1/2}$: Other: 14 fs *4* (1993Ti02).
8328.38 *12*		665 fs *152*	
8413.33 *10*		617 fs *110*	T$_{1/2}$: Other: 374 fs *76* (1993Ti02).
8543.56 *20*		26 fs *10*	T$_{1/2}$: Other: 22 fs *5* (1983Mi32).
8588.71 *10*		8 fs *2*	T$_{1/2}$: Other: 13.2 fs *14* (1993Ti02).
8904.8 *4*			
8945.20 *13*		67 fs *13*	T$_{1/2}$: Others: 69 fs *7* (1986Gl05), 62 fs *7* (1983Mi32).
8953.3 *4*			E(level): From 1995Br16.
9164.68 *17*		45 fs *21*	T$_{1/2}$: Other: 26 fs *4* (1981Gl05).
9315.92 *10*		2 fs *1*	T$_{1/2}$: Others: 0.9 fs *6* (1993Ti02), 11 fs *3* (1983Mi32).
9381.55 *12*		1.0 fs *3*	T$_{1/2}$: Other: 1.2 fs *4* (1993Ti02).
9417.17 *14*		69 fs *13*	
9479.49 *11*		9 fs *4*	
9496.04 *15*	(1$^+$)		J$^\pi$: From Adopted Levels.
9702.34 *12*		>0.4 fs	
9764.52 *11*		<2.1 fs	
9795.95 *14*			
9929.3 *20*			E(level): From 1968Gi05.
10181.60 *12*		<5.5 fs	
10189.59 *20*		<21 fs	T$_{1/2}$: From 1981Gl05.
10209.01 *20*	3$^+$[#]		
10272.3 *10*			E(level): From 1995Br16. Others: 10275 keV *3* (1970Fo11), 10272.0 keV *15* (1977Mi01).

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^{27}Al(p,γ) 1990En02,1995Br16,1975Me14 (continued)

^{28}Si Levels (continued)

E(level)[†]	J$^{\pi}$	T$_{1/2}$[@]	S[&]	Comments
10310.92 *13*	4^{+}[#]			
10376.24 *12*				
10418.25 *22*	5^{+}[‡]	15 fs *4*		T$_{1/2}$: From 1983Mi32. Other: 19 fs *8* (1990En02).
10514.1 *3*				
10541.3 *10*				E(level): From 1995Br16. Others: 10541.0 keV *20* (1975Me14), 10540 keV *3* (1970Fo11).
10596.18 *15*		<2.8 ps		
10668.05 *13*		15 fs *4*		E(level): Doublet (1990En02).
10668.34 *11*		19 fs *4*		E(level): Doublet (1990En02).
10724.7 *4*		<5.5 ps		E(level): From 1978Ma23. Other: 10724.8 keV *15* (1969Me14,1970Me04).
10778 *2*				E(level): From 1995Br16.
10805.5 *10*				E(level): From 1995Br16.
10883.45 *14*				
10900.42 *15*		<4.8 ps		
10915.6 *7*	3^{-}[#]			E(level): Weighted average of 10915.5 keV *10* (1995Br16), 10914 keV *3* (1968Gi05), 10915.9 keV *20* (1975Me14), and 10916.1 keV *15* (1971Hu04).
10944.0 *3*	4^{+}[#]	15 fs *10*		
10952.8 *3*				E(level): From 1995Br16.
10994 *3*				
11078.52 *14*	3^{-}[#]			
11101.0 *10*	6^{+}[‡]			E(level): From 1986Gl05. Other: 11099 keV *1* (1986Gl05).
11142 *1*				E(level): From 1995Br16.
11195.22 *13*	4^{+}[‡]			
11265 *3*	3^{-}[‡]			
11295.4 *4*				
11332.8 *10*	6^{+}[‡]			
11432.63 *18*				E(level): From 1990En02. Other: 11434.3 keV *10* (1975Me14).
11434.50 *22*				E(level): From 1990En02. Other: 11434.6 keV *15* (1975Me14).
11446.00 *16*				
11510.4 *10*	6^{+}[‡]			E(level): From 1995Br16.
11572.0 *7*	(4,5^{+})[‡]			E(level): From 1995Br16.
11577 *2*	6^{-}			E(level),J$^{\pi}$: Level energy from 1973Ne11.
11584.62 *19*				
11778.9 *10*	5^{+}[‡]			E(level): From 1995Br16. Other: 11778.8 keV *15* (1975Me14).
11780.7 *9*				E$_{p}$= 202.8 keV *9*.
11799.8 *4*				E$_{p}$= 222.7 keV *4*.
11867.2 *4*				E$_{p}$= 292.6 keV *4*.
11900.0 *4*				E$_{p}$= 326.6 keV *4*.
11933.5 *7*	5[‡]			E(level): From 1995Br16.
11976.0 *3*				E$_{p}$= 405.5 keV *3*.
11986 *2*				E(level): From 1995Br16.
12015.8 *5*				E$_{p}$= 446.7 keV *5*.
12071.9 *1*				E$_{p}$= 504.90 keV *7*.
12073.3 *1*				E$_{p}$= 506.38 keV *7*.
12152.0 *10*				E(level): From 1995Br16.
12174.6 *1*				E$_{p}$= 611.46 keV *4*.
12194.7 *1*				E$_{p}$= 632.23 keV *4*.
12216.3 *1*				E$_{p}$= 654.65 keV *4*.
12240.1 *1*		<80 eV		E$_{p}$=679.3 keV *4*. T$_{1/2}$: Γ from 1978Ma23.
12290.3 *1*				E$_{p}$=731.39 keV *4*.
12295.2 *1*	(2,3)$^{+}$		2.2	E$_{p}$=736.48 keV *4*.
12301.4 *1*	(0^{+},1^{-},2^{+})[#]	<80 eV	0.31	E$_{p}$=742.96 keV *4*.

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^{27}Al(p,γ) 1990En02,1995Br16,1975Me14 (continued)

^{28}Si Levels (continued)

E(level)[†]	J$^{\pi}$	T$_{1/2}$[@]	S[&]	Comments
				T$_{1/2}$: Γ from 1978Ma23.
12318.3 *1*	2$^-$		2.2	E$_p$=760.39 keV *4*.
12324.8 *1*				E$_p$=767.18 keV *4*.
12331.0 *1*		<80 eV		E$_p$=773.64 keV *4*.
				T$_{1/2}$: Γ from 1978Ma23.
12441.1 *1*				E$_p$=887.78 keV *5*.
12475.0 *1*		<80 eV		E$_p$=922.96 keV *5*.
				T$_{1/2}$: Γ from 1978Ma23.
12488.8 *1*				E$_p$=937.25 keV *5*.
12541.5 *1*				E$_p$=991.86 keV *3*. Other: 991.756 keV *17* (1994Br37).
12551.2 *1*				E$_p$=1001.93 keV *5*.
12573.7 *1*				E$_p$=1025.29 keV *5*.
12635.8 *1*		<60 eV		E$_p$=1089.74 keV *6*.
				T$_{1/2}$: Γ from 1978Ma23.
12643.1 *1*	5$^-$[#]	<80 eV		E$_p$=1097.26 keV *6*.
				T$_{1/2}$: Γ from 1978Ma23.
12663.7 *1*				E$_p$=1118.63 keV *6*.
12715.0 *1*				E$_p$=1171.84 keV *6*.
12726.2 *1*				E$_p$=1183.44 keV *8*.
12742.5 *5*				E$_p$=1200.4 keV *5*.
12754.8 *1*		<100 eV		E$_p$=1213.08 keV *6*.
				T$_{1/2}$: Γ from 1978Ma23.
12802.7 *1*				E$_p$=1262.75 keV *7*.
12816.7 *1*		<100 eV		E$_p$=1277.34 keV *8*.
				T$_{1/2}$: Γ from 1978Ma23.
12855.1 *1*				E$_p$=1317.14 keV *7*.
12866.5 *1*		250 eV *30*		E$_p$=1328.93 keV *7*.
				Γ from 1978Ma23.
12900.4 *1*	4$^+$			E$_p$=1364.08 keV *7*.
				J$^{\pi}$: Assignment from 1995Br17.
12902.0 *2*		<200 eV		E$_p$=1365.8 keV *2* (1978Ma23).
12917.3 *1*				E$_p$=1381.6 keV *7*.
12923.8 *1*				E$_p$=1388.36 keV *7*.
12924.0 *3*				E$_p$=1388.6 keV *3*.
12974.2 *3*				E$_p$=1440.6 keV *3*.
12990.0 *2*				E$_p$=1457.0 keV *2*.
13033.5 *1*				E$_p$=1502.12 keV *8*.
13050.4 *2*				E$_p$=1519.7 keV *2*.
13094.1 *1*				E$_p$=1564.98 keV *8*.
13103.9 *10*				E$_p$=1575.7 keV *10* (1995Br16).
13104.4 *10*				E$_p$=1576.3 keV *10* (1995Br16).
13105.4 *10*				E$_p$=1577.3 keV *10* (1995Br16).
13114.9 *10*		<200 eV		E$_p$=1587.2 keV *10* (1995Br16).
13116.8 *10*				E$_p$=1589.1 keV *10* (1995Br16).
13173.3 *1*				E$_p$=1647.11 keV *8*.
13188.6 *5*				E$_p$=1663.0 keV *5*.
13190.0 *2*				E$_p$=1664.4 keV *2*.
13204.6 *1*				E$_p$=1679.58 keV *1*.
13208.5 *2*		<200 eV		E$_p$=1683.57 keV *13*.
				T$_{1/2}$: Γ from 1978Ma23.
13229.7 *5*				E$_p$=1705.6 keV *5*.
13230.7 *10*				E$_p$=1707.3 keV *10* (1995Br16).
13246.9 *6*				E$_p$=1723.4 keV *6*.
13247.7 *6*				E$_p$=1724.3 keV *6*.
13271.6 *5*				E$_p$=1749 keV *5*.
13318.2 *3*				E$_p$=1797.4 keV *3*.
13320.5 *1*				E$_p$=1799.75 keV *9*.

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^{27}Al(p,γ) 1990En02,1995Br16,1975Me14 (continued)

^{28}Si Levels (continued)

E(level)[†]	J$^{\pi}$	S[&]	Comments
13360.8 *5*			E_p=1841.5 keV *5*.
13415.3 *5*			E_p=1898.1 keV *5*.
13417.2 *5*			E_p=1900 keV *5*. E(level): There is no convincing proof for the existence of this level (1995Br16). The level is not adopted.
13424.3 *5*			E_p=1907.4 keV *5*.
13425.4 *4*			E_p=1908.5 keV *4*.
13478.6 *5*			E_p=1963.7 keV *5*.
13483.7 *5*			E_p=1969 keV *5*.
13491.8 *6*			E_p=1977.4 keV *6*.
13546.7 *6*			E_p=2034.3 keV *6*.
13557.1 *1*	5^{+}[#]		E_p=2045.08 keV *3* (1978Ma23).
13560.3 *9*			E_p=2048.4 keV *9* (weighted av. of 1995Br16 and 1975Me14).
13569.0 *7*	5^{-}[#]		E_p=2057.5 keV *7* (weighted av. of 1995Br16 and 1975Me14).
13582.3 *5*			E(level): From Eγ in 1986Gl05. E_p=2072.4 keV *6* (1986Gl05).
13611.6 *8*			E_p=2101.6 keV *8*.
13616.1 *8*			E_p=2106.3 keV *8*.
13636.3 *7*			E_p=2127.3 keV *7*.
13639.9 *10*			E_p=2131.0 keV *10*.
13640.4 *10*			E_p=2131.5 keV *10*.
13663.2 *7*			E_p=2155.2 keV *7*.
13668.1 *5*			E_p=2160.2 keV *5*.
13678.7 *7*			E_p=2171.2 keV *7*.
13686.4 *5*			E_p=2179.2 keV *5*.
13706.6 *5*			E_p=2200.2 keV *5*.
13708.6 *10*			E_p=2202.2 keV *10* (1995Br16).
13710.2 *10*			E_p=2204.9 keV *10* (1995Br16).
13711.8 *5*			E_p=2205.6 keV *5*.
13734.7 *6*			E_p=2229.3 keV *6*.
13789.4 *7*			E_p=2286.0 keV *7*.
13805.9 *8*			E_p=2303.1 keV *8*.
13812.9 *8*			E_p=2310.4 keV *8*.
13814.4 *10*			E_p=2311.9 keV *10*.
13830.4 *8*	(3,4)		E_p=2328.5 keV *8* (weighted av. of 1995Br16 and 1975Me14).
13860.6 *15*			E_p=2359.9 keV *15*.
13874.0 *12*			E_p=2373.8 keV *12*.
13889.3 *8*			E_p=2389.6 keV *8* (weighted av. of 1995Br16 and 1975Me14).
13901.7 *11*			E_p=2402.5 keV *11*.
13941.0 *10*			E_p=2443.2 keV *10*.
13968.2 *7*			E_p=2471.5 keV *7* (weighted av. of 1984Ne03 and 1995Br16).
13972.4 *7*			E_p=2475.8 keV *7* (weighted av. of 1995Br16 and 1975Me14).
13979.9 *7*			E_p=2483.6 keV *7* (weighted av. of 1995Br16 and 1975Me14).
13982.6 *7*			E_p=2486.4 keV *7* (weighted av. of 1984Ne03 and 1995Br16).
13984.1 *7*			E_p=2487.9 keV *7* (weighted av. of 1984Ne03 and 1995Br16).
14012.4 *10*	4^{+}	0.08 *2*	E_p=2517.3 keV *10* (1995Br16).
14102.8 *10*	5^{-}	0.20 *4*	E_p=2612.0 keV *10* (1995Br16).
14163.7 *10*	5^{+}	0.80 *8*	E_p=2675.1 keV *10* (1995Br16).
14198.6 *10*	3^{+}	13.0 *13*	E_p=2711.3 keV *10* (1995Br16).
14207.5 *10*	4^{+}	13.0 *13*	E_p=2720.6 keV *10* (1995Br16).
14212.1 *10*	5^{+}	13.0 *13*	E_p=2725.3 keV *10* (1995Br16).
14245.4 *10*	2^{+}	25 *3*	E_p=2759.9 keV *10* (1995Br16).
14331.7 *10*	(4,5)$^{+}$	0.07 *1*	E_p=2849.3 keV *10* (1995Br16).
14346.2 *10*	4^{-}	2.3 *2*	E_p=2864.4 keV *10* (1995Br16).
14358	6^{-}		E_p=2876 keV (1975Ne03). J$^{\pi}$: From an M1 transition to 11577 keV level (1975Ne03).
14392.9 *10*	3^{+}	2.3 *2*	E_p=2912.9 keV *10* (1995Br16).

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^{27}Al(p,γ) 1990En02,1995Br16,1975Me14 (continued)

^{28}Si Levels (continued)

E(level)[†]	J$^\pi$	T$_{1/2}$[@]	S[&]	Comments
14402.9 *10*	4$^-$		2.3 *2*	E$_p$=2922.3 keV *10* (1995Br16).
14471.2 *10*	4 to 6			E$_p$=2994.1 keV *10*.
14535 *1*		<2 keV		
14542 *1*		4 keV *2*		
14550.5 *10*	3 to 5	<2 keV		E$_p$=3076.4 keV *10*.
14554.5 *10*	2	6 keV *2*		E$_p$=3080.5 keV *10*.
14572.0 *10*	4 to 6	<2 keV		E$_p$=3098.7 keV *10*.
14577.4 *10*	1,2	<2 keV		E$_p$=3104.3 keV *10*.
14633.3 *10*	4,5	<2 keV		E$_p$=3162.3 keV *10*.
14643 *3*	(4$^+$ to 8$^+$)			
14650 *1*		10 keV *2*		
14687 *1*		4 keV *2*		
14722.0 *10*	4 to 6	<2 keV		E$_p$=3254.3 keV *10*.
14728 *1*		13 keV *2*		
14741.6 *10*	3 to 5	<2 keV		E$_p$=3274.6 keV *10*.
14762 *1*		6 keV *2*		
14766 *1*		<2 keV		
14799 *1*		<2 keV		
14802.6 *10*	3 to 5	<2 keV		E$_p$=3337.9 keV *10*.
14854 *1*		<5 keV		
14860 *1*		<4 keV		
14864 *1*		<4 keV		
14897 *1*		<2 keV		
14904 *1*		<2 keV		
14926 *1*		10 keV *2*		
14954.2 *10*	2 to 4	10 keV *2*		E$_p$=3495.2 keV *10*.
15006 *1*		<3 keV		
15021 *1*		<2 keV		
15027.1 *10*	4 to 6	<5 keV		E$_p$=3570.8 keV *10*.
15034 *1*		5 keV *2*		
15051 *1*		<2 keV		
15076 *1*		4 keV *2*		
15085 *1*		<3 keV		
15113 *1*		5 keV *2*		
15127.0 *10*	4 to 6	<2 keV		E$_p$=3674.4 keV *10*.
15153 *1*		5 keV *2*		
15182.7 *10*	4 to 7	<2 keV		E$_p$=3732.2 keV *10*.
15227 *1*		<90 eV		
15239.5 *10*	3 to 5	<2 keV		E$_p$=3791.1 keV *10*. E(level): Other: 15236 keV *5* (1990Ra18).
15243 *1*		<2 keV		
15250 *1*		<3 keV		
15264 *1*		<4 keV		
15267 *1*		<4 keV		
15272 *1*		<2 keV		
15292 *1*		<2 keV		
15357 *1*		<3 keV		
15386 *1*		<2 keV		
15402.5 *10*	4 to 6	<2 keV		E$_p$=3960.2 keV *10*.
15914.8 *10*	4 to 6			E$_p$=4491.6 keV *10*.

[†] From 1990En02, except otherwise noted.
[‡] From 1986Gl05, based on the γ-ray angular distribution, linear polarization, and transition rates.
[#] From 1995Br17, based on $\gamma(\theta)$ measurements and transition rates.

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^{27}Al(p,γ) 1990En02,1995Br16,1975Me14 (continued)

^{28}Si Levels (continued)

@ From 1990En02, except otherwise noted. Γ from 1995Br16, except otherwise noted.
& From 1975Me14 as normalized on the yields for E_p=632 and 992 keV. In units of eV.

				$\gamma(^{28}Si)$	
E_i(level)	E_γ	I_γ[†]	E_f	Mult.[‡]	δ[‡]
1779.030	1778.969 *11*	100.0	0.0	E2	
4617.86	2838.29 *15*	100.0	1779.030	(E2)	
4979.92	3200.7 *5*	100.0	1779.030	E2	
6276.20	1658.81	13.4 *4*	4617.86		
	4496.78 *8*	100.0 *4*	1779.030	M1+E2	−0.14 *2*
6690.74	4911.9 *5*	100.0	1779.030	E2	
6878.79	2260.83 *9*	3.9 *6*	4617.86	(E1)	
	5099.26 *9*	39.0 *15*	1779.030		
	6877.88 *8*	100.0 *16*	0.0	E3	
6887.65	2269.69 *11*	1.31 *9*	4617.86		
	5108.11 *11*	100.00 *9*	1779.030	(E2)	
7380.59	2400.55 *13*	0.47 *16*	4979.92	E2	
	5600.95 *10*	100.0 *8*	1779.030		
	7379.54 *10*	57.3 *8*	0.0	E2	
7416.26	5636.62 *10*	6.4 *22*	1779.030		
	7415.20 *10*	100.0 *22*	0.0	E2	
7799.01	911.34 *14*	0.21 *3*	6887.65		
	1522.76 *12*	49.5 *17*	6276.20		
	3180.95 *10*	2.00 *13*	4617.86		
	6019.28 *10*	100.0 *17*	1779.030		
7933.45	1657.19 *13*	2.9 *15*	6276.20		
	2953.36 *13*	4.81 *24*	4979.92	E2	
	3315.37 *11*	5.65 *24*	4617.86	(E2)	
	6153.69 *11*	6.61 *24*	1779.030		
	7932.24 *11*	100.0 *18*	0.0	E2	
8258.74	3278.61 *13*	24.3 *15*	4979.92	E2	
	3640.62 *11*	5.7 *15*	4617.86	(E2)	
	6478.90 *11*	100 *3*	1779.030		
	8257.43 *11*	12.9 *22*	0.0	E2	
8328.38	2052.09 *14*	28 *4*	6276.20		
	6548.52 *13*	45 *9*	1779.030		
	8327.04 *12*	100 *9*	0.0	M1	
8413.33	1534.49 *13*	100.0 *8*	6878.79	M1+E2	−0.17 *1*
	3795.19 *11*	3.50 *25*	4617.86		
	6633.45 *11*	21.3 *8*	1779.030	M2+E3	+2.5 *2*
8543.56	3925.4 *3*	100.0	4617.86		
8588.71	789.68 *14*	0.59 *10*	7799.01	(M1)	
	1701.00 *15*	0.34 *23*	6887.65		
	2312.40 *13*	7.85 *23*	6276.20		
	3970.54 *11*	4.89 *23*	4617.86		
	6808.79 *11*	100.0 *5*	1779.030		
8904.8	7124.7 *5*	100 *6*	1779.030	(E1)	
	8903.2 *5*	89 *6*	0.0	E1	
8945.20	2057.46 *17*	64 *4*	6887.65	M1+E2	>25
	4326.98 *14*	100 *4*	4617.86	M1+E2	+7 +*7*−*2*
8953.3	7173.3 *4*	100.0	1779.030		
9164.68	1748.3 *2*	9.8 *11*	7416.26	(E2)	
	1784.0 *2*	29.3 *22*	7380.59	(E2)	
	2276.9 *2*	6.3 *7*	6887.65		
	2285.78 *19*	4.1 *7*	6878.79	(E1)	

Continued on next page (footnotes at end of table)

^{27}Al(p,γ) 1990En02,1995Br16,1975Me14 (continued)

$\gamma(^{28}Si)$ (continued)

E_i(level)	J_i^π	E_γ	I_γ[†]	E_f	Mult.[‡]	δ[‡]
9164.68		4546.42 *18*	67.0 *9*	4617.86		
		7384.60 *18*	100 *5*	1779.030	(E2)	
9315.92		727.19 *15*	0.8 *3*	8588.71		
		1516.86 *14*	2.4 *6*	7799.01		
		3039.54 *13*	37 *3*	6276.20	M1+E2	−0.2 *2*
		7535.80 *11*	100 *3*	1779.030	M1+E2	+0.01 *1*
9381.55		1122.78 *16*	0.60 *18*	8258.74	(M1)	
		1448.05 *16*	3.14 *23*	7933.45	(M1)	
		1965.21 *16*	0.12 *7*	7416.26		
		3105.16 *14*	4.48 *23*	6276.20	(M1)	
		7601.41 *13*	100.0 *13*	1779.030	M1+E2	+0.09 *5*
		9379.86 *12*	3.7 *4*	0.0	(E2)	
9417.17		1483.67 *18*	27 *4*	7933.45	(E2)	
		1618.11 *17*	100 *6*	7799.01		
		2000.83 *17*	13 *9*	7416.26		
		2036.50 *17*	1.20 *20*	7380.59	(E2)	
		2529.39 *18*	18.8 *6*	6887.65		
		3140.78 *16*	3.10 *20*	6276.20		
		4798.86 *15*	36.3 *14*	4617.86		
		7637.02 *15*	33.3 *10*	1779.030	(E2)	
9479.49		2063.14 *15*	0.58 *7*	7416.26		
		2098.81 *15*	0.71 *24*	7380.59		
		4499.18 *14*	5.3 *18*	4979.92	E2	
		4861.17 *12*	7.5 *4*	4617.86	(E2)	
		7699.32 *12*	3.04 *15*	1779.030		
		9477.76 *12*	100.0 *24*	0.0	E2	
9496.04	(1^+)	7715.86 *16*	18 *5*	1779.030		
		9494.31 *16*	100 *5*	0.0	M1	
9702.34		1288.97 *16*	100 *5*	8413.33	M1+E2	>+2.0
		2814.53 *16*	15.6 *23*	6887.65		
		2823.39 *15*	51.1 *23*	6878.79	(E2)	
		5083.98 *13*	33.3 *23*	4617.86		
		7922.10 *13*	22.2 *23*	1779.030		
9764.52		2885.56 *13*	0.57 *16*	6878.79		
		3488.08 *13*	2.6 *3*	6276.20	(E1)	
		7984.26 *11*	100.0 *3*	1779.030	(E1)	
9795.95		4815.58 *16*	7.2 *4*	4979.92		
		8015.68 *15*	78.0 *20*	1779.030		
		9794.11 *15*	100.0 *20*	0.0	E2	
9929.3		9927.3 *18*	100.0	0.0	E1	
10181.60		1016.9 *3*	31.0 *14*	9164.68	(E1)	
		3905.10 *14*	10 *3*	6276.20	(E1)	
		5563.14 *13*	100 *3*	4617.86	(E1)	
10209.01	3^+	2792.6 *3*	4.7 *20*	7416.26		
		5590.5 *3*	29 *7*	4617.86		
		8428.6 *3*	100 *7*	1779.030		
10272.3		1943.8 *13*	70 *3*	8328.38	M1	
		8491.8 *13*	100 *3*	1779.030	E2	
10310.92	4^+	4034.40 *15*	20 *6*	6276.20		
		5692.43 *14*	100 *10*	4617.86		
		8530.49 *14*	80 *12*	1779.030		
10376.24		1787.46 *16*	75 *4*	8588.71		
		3488.35 *16*	21 *4*	6887.65		
		4099.71 *14*	100 *11*	6276.20		
		5757.74 *13*	79 *7*	4617.86		
		8595.79 *13*	70 *5*	1779.030		
10418.25	5^+	2619.1 *3*	6.2 *11*	7799.01		

Continued on next page (footnotes at end of table)

^{27}Al(p,γ) 1990En02,1995Br16,1975Me14 (continued)

$\gamma(^{28}Si)$ (continued)

E_i(level)	J_i^π	E_γ	I_γ [†]	E_f	J_f^π	Mult. [‡]	Comments
10418.25	5^+	3530.4 *3*	11.4 *7*	6887.65			
		4141.7 *3*	100 *3*	6276.20			A_2=0.30 *5*, A_4=−0.10 *7* (1986Gl05).
		5799.7 *3*	19 *3*	4617.86			
10514.1		5533.6 *4*	7.3 *11*	4979.92			
		8733.6 *4*	100.0 *20*	1779.030			
		10511.9 *4*	51.0 *20*	0.0		E2	
10541.3		3661.2 *16*	52 *13*	6878.79			
		8759.7 *16*	100 *13*	1779.030			
10596.18		2267.7 *2*	5.7 *17*	8328.38			
		3179.72 *18*	7 *3*	7416.26			
		5615.65 *18*	23 *7*	4979.92		M1	
		10594.02 *16*	100 *7*	0.0		M1	
10668.05		1352.09 *17*	100 *7*	9315.92		(M1)	
		2734.45 *17*	2.2 *7*	7933.45			
		3251.58 *16*	22.9 *15*	7416.26			
		3287.25 *17*	4.3 *9*	7380.59			
		3780.12 *16*	13.9 *11*	6887.65			
		4391.48 *16*	11 *3*	6276.20			
		8887.50 *14*	49 *7*	1779.030			
10668.34		1251.13 *18*	0.88 *17*	9417.17			
		1286.75 *18*	0.76 *23*	9381.55		(E2)	
		1352.38 *18*	100 *7*	9315.92		(M1)	
		1723.08 *17*	1.9 *4*	8945.20			
		2079.55 *18*	13.3 *4*	8588.71			
		2124.69 *15*	0.86 *15*	8543.56		(E2)	
		2409.48 *15*	1.73 *19*	8258.74			
		2734.74 *15*	14.1 *4*	7933.45		(E2)	
		2869.17 *15*	3.8 *3*	7799.01			
		3251.88 *15*	30.2 *11*	7416.26			
		3287.54 *14*	1.0 *3*	7380.59			
		3780.41 *14*	3.5 *4*	6887.65			
		4391.77 *12*	49.4 *17*	6276.20			
		6049.77 *12*	18.4 *13*	4617.86			
		8887.79 *12*	15.3 *7*	1779.030			
10724.7		10722.4 *5*	100.0	0.0		M1	
10778		4501 *2*	100.0	6276.20			
10883.45		3466.96 *17*	5.7 *16*	7416.26			
		9102.83 *15*	100 *7*	1779.030			
10900.42		9119.79 *16*	47 *5*	1779.030			
		10898.14 *16*	100 *5*	0.0		M1	
10915.6	3^-	1599.8 *11*	16 *3*	9315.92			
		6297.1 *11*	19 *4*	4617.86			
		9135.1 *11*	100 *4*	1779.030			
10944.0	4^+	1447.9 *4*	7.3 *25*	9496.04	(1^+)		E_γ: Not adopted, γ-ray transition from 4^+ to (1^+).
		2685.1 *4*	26 *4*	8258.74			
		3527.5 *4*	42 *6*	7416.26			
		3563.1 *4*	21 *4*	7380.59			
		9163.3 *4*	100 *6*	1779.030			
10952.8		9172.1 *3*	100.0	1779.030			
10994		9213 *2*	100.0	1779.030			
11078.52	3^-	1696.91 *16*	20 *3*	9381.55			
		1762.54 *16*	34 *3*	9315.92			
		3662.00 *16*	49 *3*	7416.26			
		4801.88 *16*	83 *3*	6276.20			
		9297.83 *15*	100 *3*	1779.030			
11101.0	6^+	6480.3 *11*	100.0	4617.86			
11195.22	4^+	1399.2 *2*	13 *6*	9795.95			

Continued on next page (footnotes at end of table)

^{27}Al(p,γ) 1990En02,1995Br16,1975Me14 (continued)

$\gamma(^{28}Si)$ (continued)

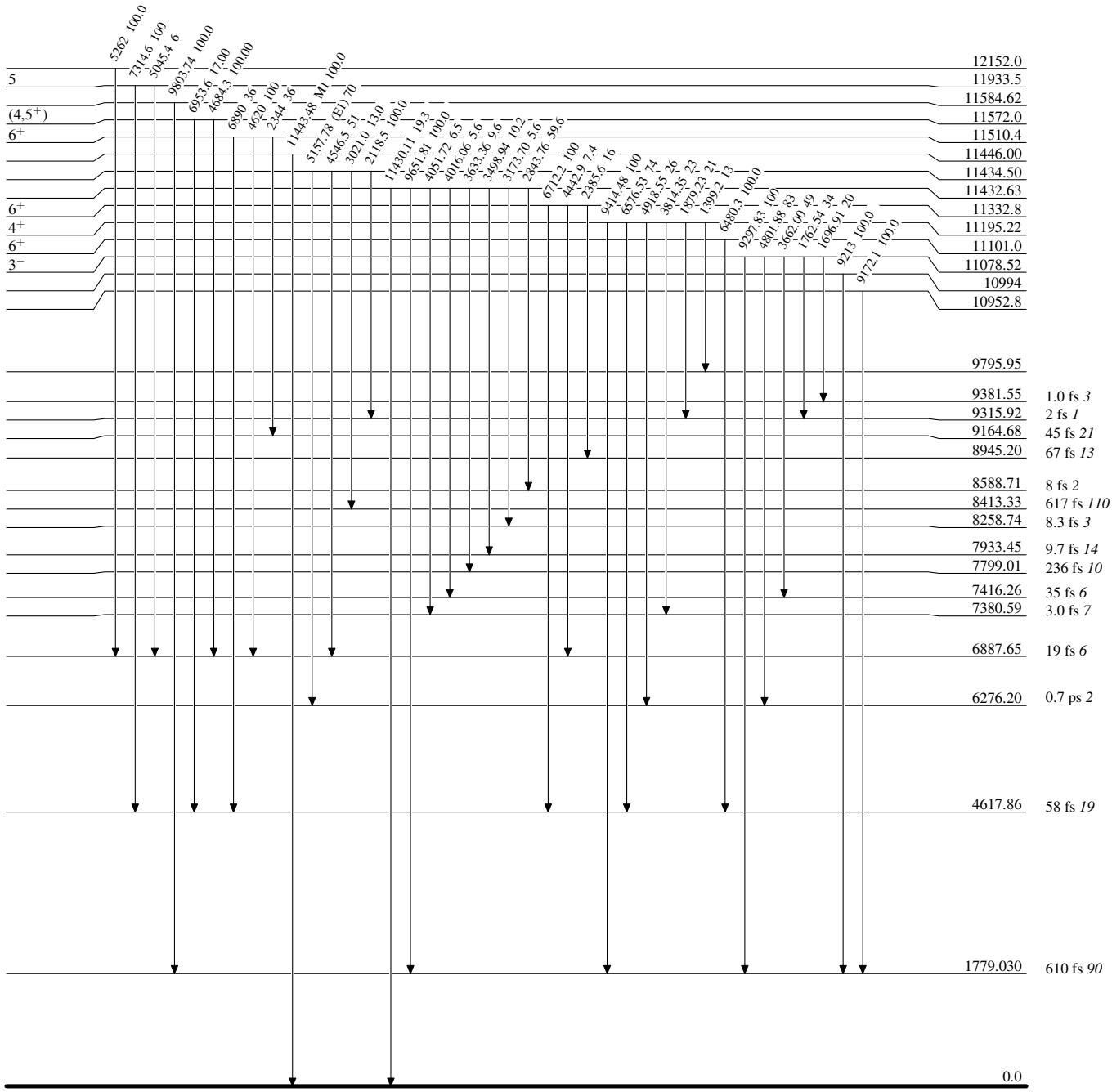
E_i(level)	J_i^π	E_γ	I_γ[†]	E_f	Mult.[‡]
11195.22	4^+	1879.23 *17*	21 *8*	9315.92	
		3814.35 *16*	23 *6*	7380.59	
		4918.55 *15*	26 *6*	6276.20	
		6576.53 *14*	74 *13*	4617.86	
		9414.48 *14*	100 *16*	1779.030	
11332.8	6^+	2385.6 *11*	16 *4*	8945.20	
		4442.9 *11*	7.4 *25*	6887.65	
		6712.2 *11*	100 *4*	4617.86	
11432.63		2843.76 *19*	59.6 *4*	8588.71	
		3173.70 *19*	5.6 *13*	8258.74	
		3498.94 *19*	10.2 *15*	7933.45	
		3633.36 *19*	9.6 *17*	7799.01	
		4016.06 *19*	5.6 *15*	7416.26	
		4051.72 *19*	6.5 *17*	7380.59	
		9651.81 *19*	100.0 *20*	1779.030	
		11430.11 *19*	19.3 *4*	0.0	
11434.50		2118.5 *2*	100.0 *20*	9315.92	
		3021.0 *2*	13.0 *20*	8413.33	
		4546.5 *2*	51 *5*	6887.65	
		5157.78 *2*	70 *4*	6276.20	(E1)
11446.00		11443.48 *16*	100.0	0.0	M1
11510.4	6^+	2344 *4*	36 *7*	9164.68	
		4620 *4*	100 *7*	6887.65	
		6890 *4*	36 *4*	4617.86	
11572.0	$(4,5^+)$	4684.3 *7*	100.00 *20*	6887.65	
		6953.6 *7*	17.00 *20*	4617.86	
11584.62		9803.74 *10*	100.0	1779.030	
11933.5	5	5045.4 *7*	6 *2*	6887.65	
		7314.6 *7*	100 *2*	4617.86	
12152.0		5262	100.0	6887.65	

[†] From 1990En02, 1986Gl05, 1975Me14, and 1995Br16. In some cases, weighted averages of the data are presented.
[‡] From Adopted Gammas.

^{27}Al(p,γ) 1990En02,1995Br16,1975Me14

Level Scheme

Intensities: % photon branching from each level

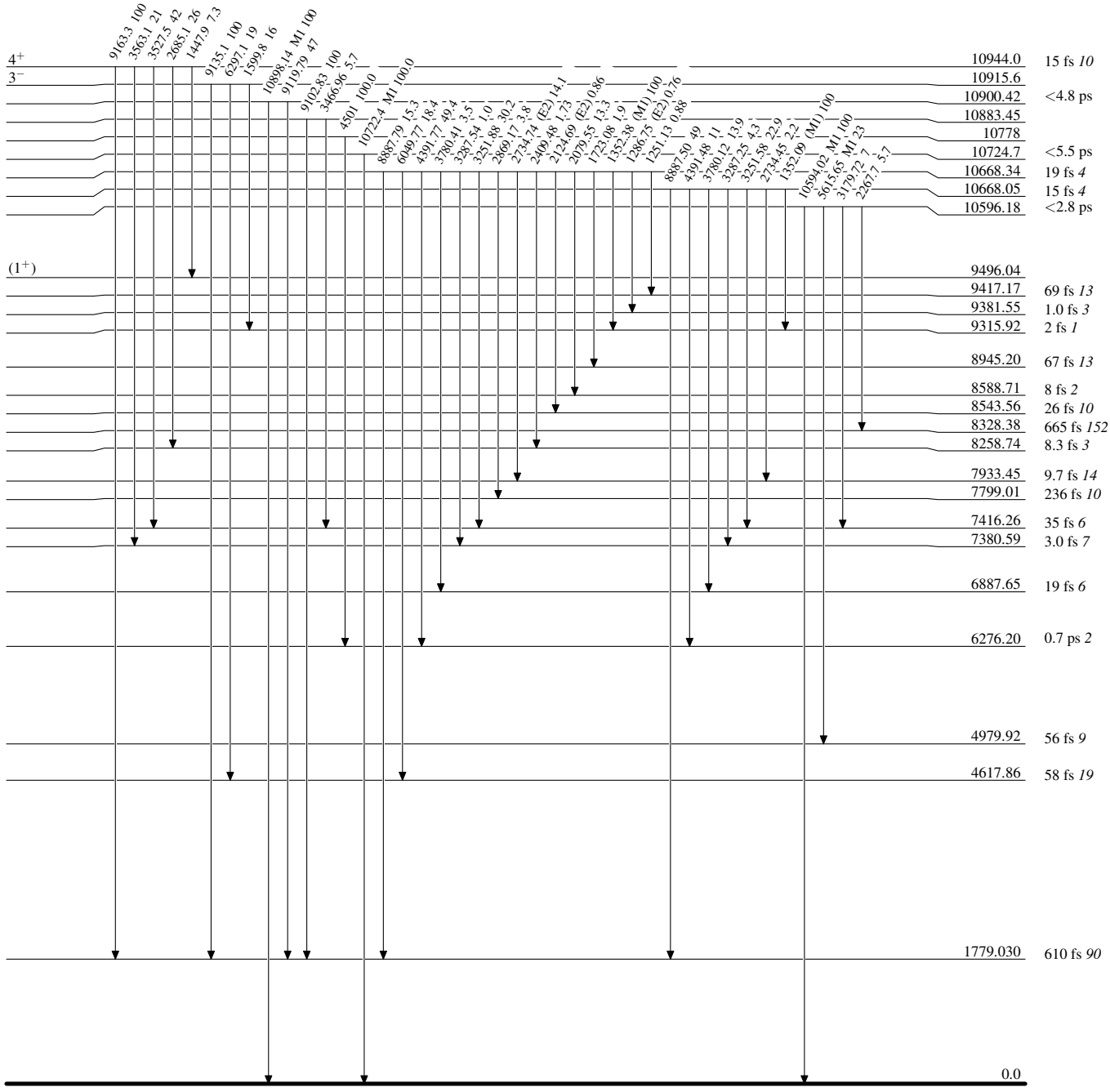


$^{28}_{14}Si_{14}$

^{27}Al(p,γ) 1990En02,1995Br16,1975Me14

Level Scheme (continued)

Intensities: % photon branching from each level

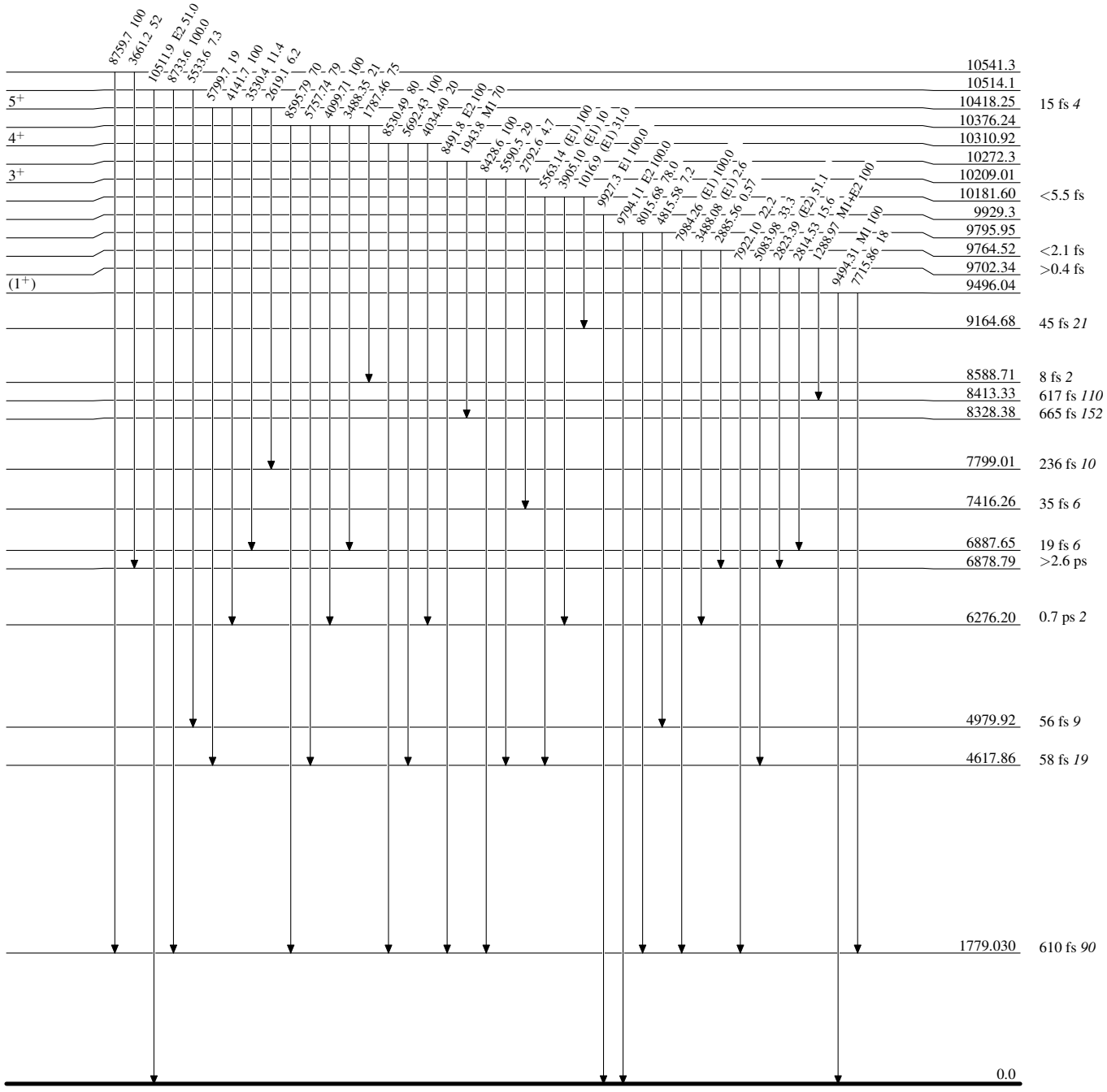


$^{28}_{14}Si_{14}$

^{27}Al(p,γ) 1990En02,1995Br16,1975Me14

Level Scheme (continued)

Intensities: % photon branching from each level

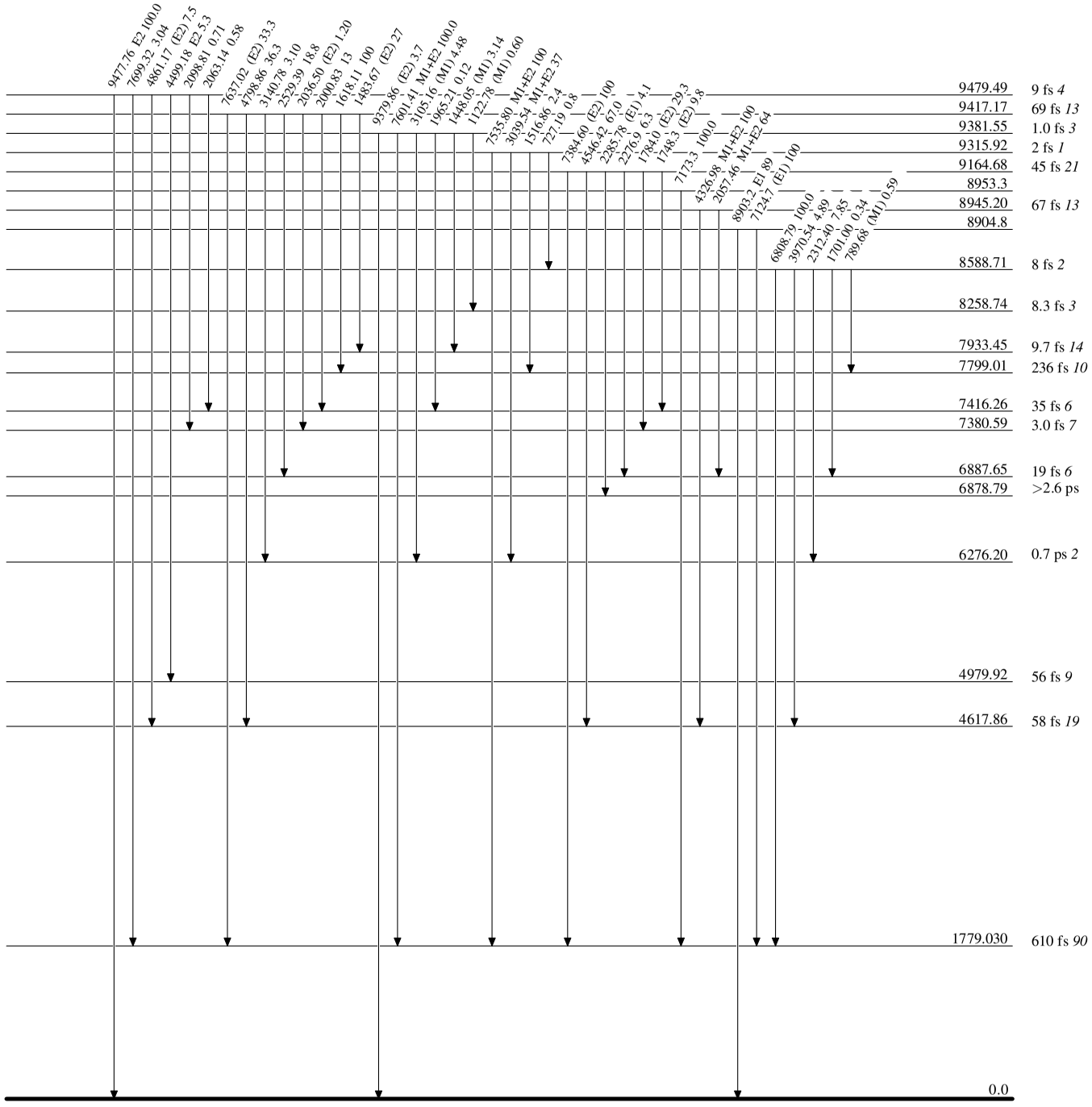


$^{28}_{14}Si_{14}$

^{27}Al(p,γ) 1990En02,1995Br16,1975Me14

Level Scheme (continued)

Intensities: % photon branching from each level

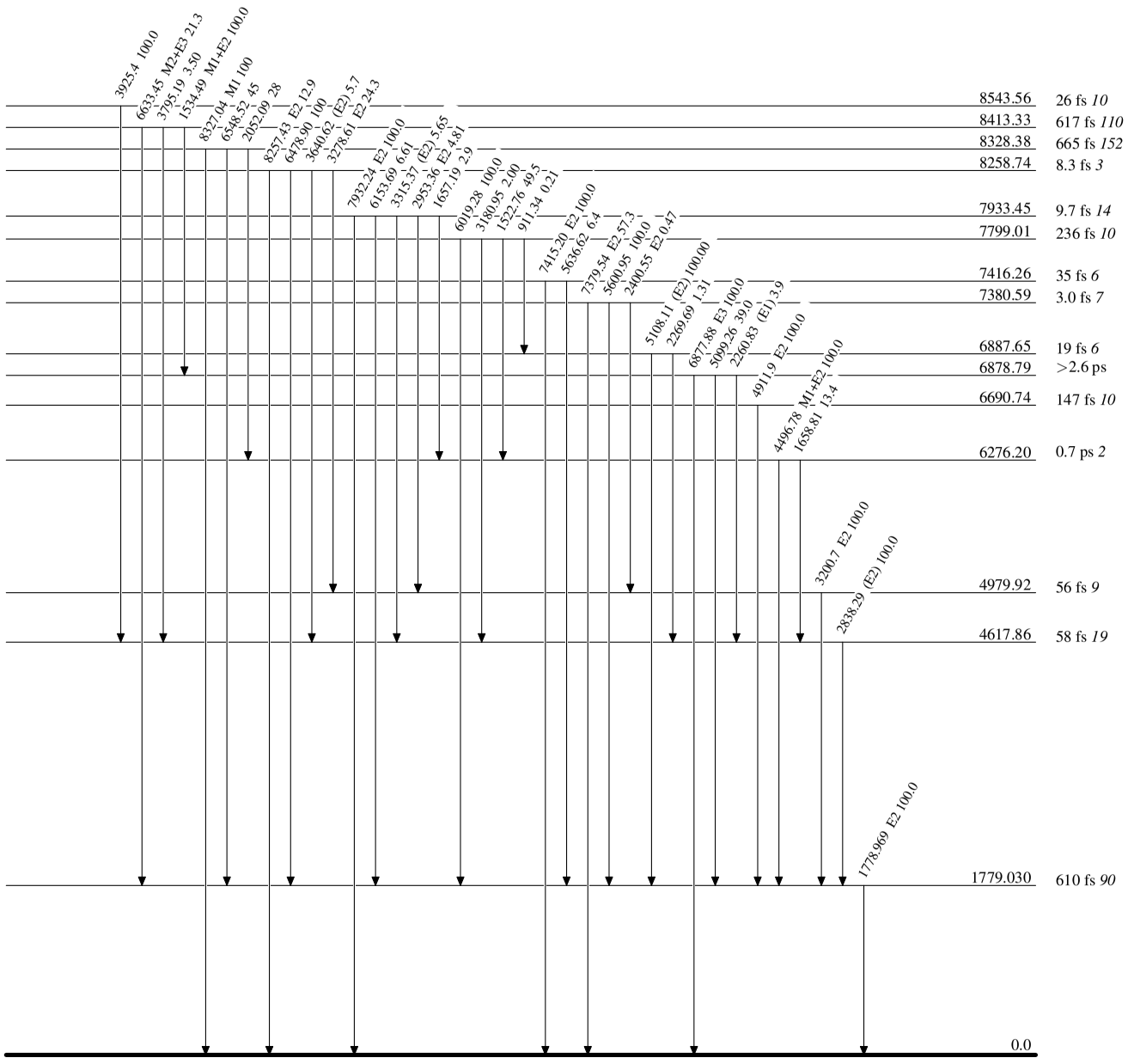


$^{28}_{14}Si_{14}$

^{27}Al(p,γ) 1990En02,1995Br16,1975Me14

Level Scheme (continued)

Intensities: % photon branching from each level



$^{28}_{14}Si_{14}$