Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen[#]	NDS 126, 1 (2015)	31-Mar-2015

Q(β^-)=−6867 *7*; S(n)=12138.3 *19*; S(p)=4929.8 *19*; Q(α)=−4805.8 *19* 2012Wa38
S(2n)=23688.3 *19*, S(2p)=15206.5 *19* (2012Wa38).
Additional information 1.
2011Av01: E=25-48 MeV. Isotopes produced at IGISOL facility at Jyvaskyla. Measured hyperfine structure, moments, isotope shifts, charge radii by collinear laser spectroscopy. Comparison with shell-model calculations. Known moments for ^{45}Sc g.s. used as reference.

^{43}Sc Levels

See (p,γ), (p,p) and (p,p′γ) resonance datasets for additional levels between 5919 keV and 8193 keV.

Cross Reference (XREF) Flags

A	^{43}Ti ε decay (509 ms)	H	^{40}Ca(α,pγ)	O	^{42}Ca(^{3}He,d)
B	^{24}Mg(^{24}Mg,αpγ)	I	^{40}Ca(^{6}Li,^{3}He)	P	^{42}Ca(^{16}O,^{15}N)
C	^{27}Al(^{18}O,2nγ)	J	^{42}Ca(p,γ):resonances	Q	^{43}Ca(p,n),(p,nγ)
D	^{27}Al(^{19}F,p2nγ)	K	^{42}Ca(p,γ) E=res	R	^{43}Ca(^{3}He,t)
E	^{28}Si(^{20}Ne,αpγ)	L	^{42}Ca(p,p):resonances	S	^{45}Sc(p,t)
F	^{29}Si(^{16}O,pnγ)	M	^{42}Ca(p,p′γ):resonances	T	^{46}Ti(p,α),(pol p,α)
G	^{40}Ca(α,p)	N	^{42}Ca(d,n)		

E(level)[†]	J$^\pi$[#]	T$_{1/2}$[‡]	XREF	Comments
0.0[&]	7/2$^-$	3.891 h *12*	ABCDEFGHI K NOPQRST	%ε+%β^+=100 μ=+4.528 *10* (2011Av01,2014StZZ) Q=−0.27 *5* (2011Av01,2014StZZ) Evaluated rms charge radius=3.558 fm *15* (2013An02). μ,Q: from 2011Av01 (also 2006Ga47) using laser spectroscopy. Others: μ=+4.503 *4*, Q=−0.208 *22* (2006Ga47,laser spectroscopy); μ=+4.61 *4*, Q=−0.26 *6* (1966Co13, atomic-beam method). Adopted (by 1977En02) spectroscopic factor S=0.81 *12* (proton stripping). Measured δ<r^2>(^{45}Sc,^{43}Sc)=+0.082 fm^2 *14*(stat) *88*(syst) (2011Av01). J$^\pi$: spin from atomic-beam spectroscopy (1966Co13), parity from L(^{3}He,d)=L(d,n)=3. T$_{1/2}$: weighted average of 3.92 h *2* (1945Hi04), 3.95 h *2* (1963Du11), and 3.885 h *5* (1969Ra16).
151.79[c] *8*	3/2$^+$	438 μs *7*	AB DE GH K NO QR T	%IT=100 μ=+0.348 *6* (1977Mi10,2014StZZ) μ: TDPAD method (1977Mi10). Adopted (by 1977En02) spectroscopic factor S=0.35 *6* (proton stripping). T$_{1/2}$: 435 μs *30* (1964Br27). J$^\pi$: L(^{3}He,d)=L(d,n)=2; M2 γ to 7/2$^-$.
472.60 *14*	3/2$^-$	158 ps *13*	A D GHI K NOPQRST	Adopted (by 1977En02) spectroscopic factor S=0.13 *3* (proton stripping). J$^\pi$: L(^{3}He,d)=L(d,n)=1; E2 γ to 7/2$^-$.
845.18 *9*	5/2$^-$	0.15 ps *1*	AB E GH K O RST	J$^\pi$: L(p,t)=2 from 7/2$^-$; M1+E2 γ to 7/2$^-$; primary γ from 3/2$^-$ resonance in (p,γ). 7/2 ruled out by $\gamma(\theta)$ in (α,pγ) and RUL.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{43}Sc Levels (continued)

E(level)[†]	Jπ[#]	$T_{1/2}$[‡]	XREF	Comments
855.65 *25*	1/2$^+$	22 ps *3*	GH K NO QR T	Adopted (by 1977En02) spectroscopic factor S=0.08 *2* (proton stripping). Jπ: L(^{3}He,d)=L(d,n)=0.
880.64[d] *8*	5/2$^+$	4.6 ps *10*	B DE GH K O QR T	Jπ: M1+E2 γ to 3/2$^+$; γ to 7/2$^-$. Anisotropic γ(θ) rules out 1/2$^+$.
1158.76 *24*	3/2$^+$	4.4 ps *10*	GH K	Jπ: M1+E2 γ to 3/2$^+$; dipole γ to 1/2$^+$. 1/2$^+$ ruled out by anisotropic 1006γ(θ).
1178.98 *22*	3/2$^-$	0.28 ps *11*	GHI K NOPQRST	Adopted (by 1977En02) spectroscopic factor S=0.24 *4* (proton stripping). Jπ: L(^{3}He,d)=L(d,n)=1, γ to 7/2$^-$.
1337.53[c] *7*	7/2$^+$	0.83 ps *35*	B DE GH K Q	Jπ: stretched E2 γ to 3/2$^+$.
1408.09[a] *10*	7/2$^-$	0.19 ps *6*	AB E GHI K N QRST	XREF: G(1418)N(1395)Q(1424). Jπ: L(p,t)=0 from 7/2$^-$; M1+E2 to 7/2$^-$; γs to 5/2$^-$ and 3/2$^-$.
1651.22 *25*	5/2$^+$	0.18 ps *3*	GH K O Q T	XREF: Q(1677). Jπ: M1 γ to 3/2$^+$; γ to 7/2$^-$.
1811.1 *4*	3/2$^-$	16 fs *6*	GHI K NOP RS	Jπ: L(^{3}He,d)=L(d,n)=1. Anisotropic γ(θ) rules out 1/2.
1830.33[&] *11*	11/2$^-$	0.20 ps *3*	BCDEFGHI RST	Jπ: ΔJ=2, E2 γ to 7/2$^-$. J=3/2 ruled out by γ(θ,lin pol).
1882.8 *3*	(5/2,9/2)$^-$	35 fs *17*	A GH K RS	Jπ: L(p,t)=2 from 7/2$^-$; M1+E2 γ to 7/2$^-$. J=7/2 ruled out by γ(θ) in (α,pγ). If 1730γ to 151.8, 3/2$^+$ exists, 9/2 will be ruled out.
1912 *6*			G	
1932.55[d] *9*	9/2$^+$	2.4 ps *6*	B DE GH K S	Jπ: L(p,t)=5 from 7/2$^-$; ΔJ=2, E2 to 5/2$^+$; M1+E2 γ to 7/2$^+$.
1962.89 *20*	(3/2,5/2)$^-$	70 fs *11*	A GH K NO	XREF: N(1947). Jπ: M1+E2 γ to 3/2$^-$; γ(θ) in (p,γ) rules out 1/2, prefers 5/2 over 3/2, L(^{3}He,d)=L(d,n)=1 support 3/2$^-$. The log *ft*=6.4 from 7/2$^-$ disfavors 3/2$^-$, but the β feeding is small and a strong argument cannot be made to rule out 3/2 completely.
2094.8 *3*	3/2$^-$	0.29 ps *+8–6*	GH K O s	Jπ: L(^{3}He,d)=1; γ to 5/2$^+$. J=1/2 ruled out by γ(θ).
2106.6 *5*	(3/2,5/2)	0.21 ps *7*	GH K n s	Jπ: γs to 3/2$^+$ and 5/2$^+$; 1/2$^+$ and 7/2$^+$ are possible but, with B(E2)(W.u.)≈75, less likely.
2114.5 *5*			K nO st	XREF: O(?). Jπ: L(p,t)=(3+5) from 7/2$^-$ implies positive parity for 2114 and/or 2106; whereas L(d,n)=(1) implies negative parity for one of these levels.
2142.0 *3*	(3/2$^-$,5/2$^+$)	0.19 ps *4*	GH K t	Jπ: γs to 1/2$^+$ and 7/2$^-$. γ(θ) in (p,γ) prefers 7/2 over 5/2, but γ to 1/2$^+$ and RUL exclude 7/2.
2242.8 *6*	(3/2,5/2,7/2)$^-$	0.19 ps *9*	GH RSt	Jπ: L(p,t)=2 from 7/2$^-$; γs to 3/2$^-$ and 7/2$^-$.
2288.65 *8*	5/2$^-$	<21 fs	A GHI K O RS	Jπ: L(^{3}He,d)=3; γ to 3/2$^+$.
2335.47 *10*	5/2$^-$	28 fs *14*	A GH K NO RS	Jπ: L(d,n)=3; L(p,t)=2 from 7/2$^-$. J=7/2 not allowed by γ(θ) in (α,pγ) and RUL.
2383.1 *4*	3/2$^{(+)}$	>0.31 ps	GH K O	Jπ: (M1+E2) γ to 1/2$^+$ and γ(θ) in (α,pγ).
2458.68 *10*	(5/2,9/2)$^-$	38 fs *14*	A GH RS	Jπ: L(p,t)=2 from 7/2$^-$; ΔJ=1, M1 γ to 7/2$^-$; log *ft*=4.5 from 7/2$^-$.
2553.54[c] *11*	11/2$^+$	0.51 ps *7*	B DE GH K S	Jπ: ΔJ=1, dipole γ to 9/2$^+$, ΔJ=2, Q γ to 7/2$^+$.
2580.8 *4*	(5/2)	0.10 ps *3*	GH K	Jπ: primary transitions from 3/2 and 7/2 resonances in (p,γ).
2606 *10*			O	
2635.35[a] *13*	(11/2)$^-$	0.21 ps *7*	B E GHI RSt	Jπ: L(p,t)=2 from 7/2$^-$; D γ to 11/2$^-$; γ to 7/2$^-$; γ sequence. J=9/2 is not completely ruled out.
2650.5 *16*			H	E(level): this level may be the same as 2657, 1/2$^+$

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{43}Sc Levels (continued)

E(level)[†]	Jπ[#]	$T_{1/2}$[‡]	XREF	Comments
				level but γ to 5/2⁻ suggests a different level.
2657 *10*	1/2⁺		nO t	E(level): see comment for 2650.5 level. Jπ: L(³He,d)=0.
2670.5 *4*	3/2⁻		GH K nO RSt	Jπ: L(p,t)=2 from 7/2⁻; γ to 1/2⁺.
2760.10 *10*	(5/2,7/2,9/2)⁻	<28 fs	A GH RS	Jπ: L(p,t)=4 from 7/2⁻; γ to 7/2⁻; log *ft*=4.94 from 7/2⁻.
2795.4 *5*	3/2⁻,5/2⁻	0.28 ps *16*	H K S	Jπ: L(p,t)=2 from 7/2⁻; γs to 3/2⁺ and 7/2⁻; RUL.
2811.1 *6*	(5/2,7/2,9/2)	<62 fs	GH K	Jπ: γs to 7/2⁻ and 7/2⁺.
2840.7 *5*	(5/2,7/2)⁺		GH K n S	Jπ: L(p,t)=5 from 7/2⁻; γs to 7/2⁻ and (3/2)⁺; inconsistent with L(d,n)=1+3.
2846.2 *8*			H K n	Jπ: L(d,n)=1+3 for a 2830 group suggests a doublet with J^π=1/2⁻,3/2⁻ and 5/2⁻,7/2⁻ near this energy.
2860.8 *4*	(1/2,3/2,5/2)⁺		H K S	Jπ: L(p,t)=3 from 7/2⁻; γ transitions to 3/2⁻ and 3/2⁺.
2874.7 *6*	(5/2)⁺		K O T	XREF: T(2870). Jπ: fit to σ(θ) and Ay in (pol p,α) gives 5/2⁺,9/2⁺; γ to 3/2⁺ disfavors 9/2⁺.
2930?	3/2⁺,5/2⁺		N	Jπ: L(d,n)=2.
2985.0 *5*	(3/2,5/2)	54 fs *11*	H K NO Rs	Jπ: γs to 3/2⁺, 5/2⁻, 5/2⁺ and 3/2⁻.
2988.12[&] *12*	15/2⁻	5.6 ps *7*	BCDEFGHI sT	Jπ: ΔJ=2, E2 γ to 11/2⁻.
3123.73[&] *15*	19/2⁻	472 ns *4*	BCDEFGHI RST	μ=+3.122 *7* (1978Ha07,2014StZZ) Q=0.199 *14* (1981Da06,2014StZZ,2013StZZ) Jπ: L(p,t)=6 from 7/2⁻; ΔJ=2, E2 γ to 15/2⁻. μ,Q: TDPAD method (1978Ha07,1981Da06). Others: μ=3.108 *18* (1994Zh43), 3.15 *2* (1971Na10).
3142.05[d] *12*	13/2⁺	>0.55 ps	B DE GH	Jπ: ΔJ=2, E2 γ to 9/2⁺; γ to 11/2⁺.
3159.3 *5*	(3/2⁻,5/2,7/2⁺)	<0.42 ps	H K	Jπ: γs to 7/2⁻ and 3/2⁺.
3198.2 *10*	(1/2 to 7/2⁻)	<0.28 ps	H O S	Jπ: 1/2,3/2,5/2,7/2⁻ from γ to 3/2⁻.
3260.1 *8*	(7/2,9/2)⁻	42 fs *25*	A GH K O RS	Jπ: L(p,t)=4 from 7/2⁻; log *ft*=5.9 from 7/2⁻; possible γ to 11/2⁻.
3292.4 *3*	7/2⁻		B E GH K S	Jπ: L(p,t)=2 from 7/2⁻; γs to 3/2⁻ and 9/2⁺. $T_{1/2}$: values <3.5 fs from (p,γ) and >55 fs from (α,pγ) are discrepant.
3326.8 *8*	(3/2⁻ to 9/2)		K no Rs	Jπ: γ to 7/2⁻; γ from 6696, 5/2. L(³He,d)=3 for a 3328 group gives 5/2⁻, 7/2⁻ for 3327 or 3332 level. L(p,t)=2 from 7/2⁻ gives negative parity for one or both these levels.
3332.2 *4*	(3/2⁻,5/2)	0.13 ps *10*	H K no s	Jπ: γs to 3/2⁻, 5/2⁻ and 3/2⁺; possible γ to 7/2⁻. L(d,n)=3 for a 3330 group suggests 5/2⁻,7/2⁻ for one of the levels near this energy.
3375.3 *5*	(7/2,9/2)⁻	<62 fs	H K S	Jπ: L(p,t)=2 from 7/2⁻; γs to 7/2⁻, 7/2⁺ and 11/2⁻.
3452.1 *5*	5/2⁺	<2.1 fs	gH K No S	Jπ: L(d,n)=2; L(p,t)=5 from 7/2⁻; 3/2⁺ ruled out by γ to 7/2⁻ and RUL.
3463.3 *6*	5/2⁻		gH K O r T	XREF: O(3474). Jπ: L(³He,d)=3; γ to 3/2⁺.
3480 *10*	(≤13/2)⁺		G L rSt	Jπ: L(p,t)=3 from 7/2⁻.
3503.2 *6*	7/2⁻		K O S	Jπ: L(p,t)=0 from 7/2⁻.
3613 *10*			nO	
3631.7 *10*	(5/2⁻,7/2⁻,9/2⁻)		A n	Jπ: possible allowed ε feeding from 7/2⁻.
3645.6 *5*	(3/2,5/2,7/2⁻)		K	Jπ: γs to 5/2⁺,5/2⁻ and 3/2⁻.
3683.2 *5*	(3/2,5/2,7/2)		G K NO RS	E(level),Jπ: L(p,t)=3 from 7/2⁻ implying positive parity and L(³He,d)= L(d,n)=3 implying 5/2⁻,7/2⁻ require two separate levels near this energy. 7/2⁻ is not likely from γ to 3/2⁺.
3700 *10*	(5/2 to 19/2)⁻		S	Jπ: L(p,t)=6 from 7/2⁻.
3734.0 *5*			K	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{43}Sc Levels (continued)

E(level)[†]	Jπ[#]	$T_{1/2}$[‡]	XREF	Comments
3755.43[c] *16*	15/2$^+$		B DE	Jπ: ΔJ=2, Q γ to 11/2$^+$; ΔJ=1, M1+E2 γ to 13/2$^+$.
3756.5 *5*	(3/2$^-$,5/2,7/2$^+$)		K	Jπ: γs to 3/2$^+$ and 7/2$^-$.
3771 *10*	(3/2 to 17/2)$^+$		S	Jπ: L(p,t)=5 from 7/2$^-$.
3807.2 *4*	7/2$^-$	<3.5 fs	G K O ST	XREF: O(3786). Jπ: ΔJ=1 γ to 5/2$^+$; γs to 3/2$^-$ and 7/2$^+$; 3/2$^+$ excluded by RUL. L(p,t)=5 from 7/2$^-$ for 3807 group is incompatible.
3843.0 *6*	(≤9/2)		g K Rs	Jπ: γ to 5/2$^-$. L(p,t)=5 from 7/2$^-$ implies positive parity for 3843 or 3860 level.
3860.1 *6*	(≤7/2)		g K s	Jπ: γ to 3/2$^+$. See also comment for 3843 level.
3894 *8*			R	
3939 *10*	5/2$^-$,7/2$^-$		g NO R	Jπ: L(^{3}He,d)=L(d,n)=3.
3949 *10*	(≤13/2)$^+$		gH S	XREF: H(3956)S(3949). Jπ: L(p,t)=3 from 7/2$^-$.
3959.87[a] *12*	15/2$^-$		B E	Jπ: ΔJ=2, Q γs to 11/2$^-$; D γ to 15/2$^-$.
3985 *10*			G O	
4007.3 *5*	(3/2,5/2)$^+$		K N S	Jπ: L(p,t)=5 from 7/2$^-$; γs to 1/2$^+$ and 5/2$^+$.
4038.8 *6*	7/2$^-$		K S	Jπ: L(p,t)=4 from 7/2$^-$; γs to 3/2$^-$ and 9/2$^+$.
4132 *8*	(3/2 to 17/2)$^+$		RS	Jπ: L(p,t)=5 from 7/2$^-$. E(level): population uncertain in (^{3}He,t).
4158.6 *10*	(9/2,11/2,13/2)$^-$		GH S	Jπ: L(p,t)=4 from 7/2$^-$; γ to 11/2$^+$.
4211 *10*	(9/2,13/2)$^+$		ST	XREF: T(4180). Jπ: L(p,t)=3 from 7/2$^-$; σ(θ) and Ay in (pol p,α).
4236 *8*	7/2$^-$		NO RST	T=3/2 Jπ: L(p,t)=0 from 7/2$^-$; L(^{3}He,d)=L(d,n)=3.
4276 *8*			K R	XREF: K(4272).
4301.2 *5*	(9/2,11/2,13/2$^+$)		B E	Jπ: γ to 9/2$^+$.
4343 *8*			R	
4360	(17/2$^-$)		T	Jπ: σ(θ) and Ay in (pol p,α).
4371.5 *5*	5/2$^-$,7/2$^-$		G K O R	XREF: O(4363). Jπ: L(^{3}He,d)=3. γ(θ) in (p,γ) preferred 7/2$^+$.
4383 *9*	5/2$^-$,7/2$^-$		NO	Jπ: L(^{3}He,d)=L(d,n)=3.
4383.03 *23*	17/2$^{(-)}$	40 fs *17*	B DE	Jπ: D γ to 15/2$^-$; D+Q γ to 19/2$^-$.
4430.2 *5*	(1/2$^+$,3/2,5/2)		K	Jπ: γs to 3/2$^-$, 3/2$^+$ and 5/2$^+$.
4455.3 *8*	(5/2 to 9/2)	<3.5 fs	K	Jπ: ΔJ=1 γ to 7/2$^-$.
4511 *8*			R	
4555 *10*	(11/2$^+$,13/2$^-$)		O T	Jπ: σ(θ) and Ay in (pol p,α).
4583 *10*			NO T	
4633.6 *19*	(17/2,21/2)	<110 fs	D	Jπ: ΔJ=1 γ to 19/2$^-$.
4660 *8*	1/2$^-$,3/2$^-$		G NO RS	XREF: G(4630). Jπ: L(^{3}He,d)=L(d,n)=1.
4700	(15/2$^+$)		T	Jπ: σ(θ) and Ay in (pol p,α).
4719 *9*	1/2$^-$,3/2$^-$		NO	Jπ: L(^{3}He,d)=L(d,n)=1.
4766 *8*	1/2$^-$,3/2$^-$		O R	Jπ: L(^{3}He,d)=1.
4817 *8*	1/2$^-$,3/2$^-$		O R	Jπ: L(^{3}He,d)=1.
4873 *8*			O R	
4893 *9*	1/2$^-$,3/2$^-$		NO	Jπ: L(^{3}He,d)=1.
4927 *10*			G O	
5018 *9*	1/2$^-$,3/2$^-$		NO	Jπ: L(^{3}He,d)=L(d,n)=1.
5187 *10*			O	E(level): due to improbable L(^{3}He,d)=8 required for 17/2$^+$, the 5187 level in (^{3}He,d) is considered as different from 5200.
5200	(17/2$^+$)		T	Jπ: σ(θ) and Ay in (pol p,α).
5231.33[d] *17*	(17/2$^+$)		B DE	Jπ: ΔJ=1 γ to 15/2$^+$; γ sequence.
5236 *10*			G ST	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{43}Sc Levels (continued)

E(level)†	Jπ#	$T_{1/2}$‡	XREF	Comments
5258 *10*	1/2⁻,3/2⁻		NO	Jπ: L(^{3}He,d)=L(d,n)=1.
5317 *10*			G O	
5446 *10*			O	
5502 *9*	1/2⁻,3/2⁻		NO	Jπ: L(^{3}He,d)=L(d,n)=1.
5519.00[c] *15*	19/2⁺	<62 fs	B DEF	Jπ: ΔJ=2, E2 γ to 15/2⁺; ΔJ=1, dipole γ to 19/2⁻.
5530 *10*	1/2⁻,3/2⁻		O	Jπ: L(^{3}He,d)=1.
5641 *9*	1/2⁻,3/2⁻		NO	Jπ: L(^{3}He,d)=L(d,n)=1.
5719 *9*	1/2⁻,3/2⁻		G NO	Jπ: L(^{3}He,d)=L(d,n)=1.
5793.51 *24*	(15/2,17/2,19/2⁻)		B E	Jπ: γ to 15/2⁻.
5823 *9*			NO	
5871 *10*			O	
5919.4 *4*	3/2		JK O	Jπ: γ(θ) in (p,γ).
5950.5 *3*	(3/2,5/2)		JK	Jπ: γ(θ) in (p,γ).
5977 *12*			NO	
6033 *9*	1/2⁻,3/2⁻		NO	Jπ: L(^{3}He,d)=L(d,n)=1.
6060.5 *10*	(5/2)		JK	Jπ: γ(θ) in (p,γ).
6067.23[a] *14*	19/2⁻	55 fs *12*	B DE	Jπ: ΔJ=2, E2 γs to 15/2⁻, γ sequence.
6079 *10*			G O	
6103.2 *3*	(3/2⁻,5/2⁺)		JK O	Jπ: from γ decay of resonance in (p,γ).
6116			J	
6127			J	
6136.2 *3*	3/2		JK	Jπ: from γ(θ) in (p,γ).
6143.4 *3*	3/2⁻		JK	Jπ: γ decay of resonance and γ(θ) in (p,γ).
6146 *3*	1/2⁻,3/2⁻		J NO	T=3/2 Jπ: L(^{3}He,d)=L(d,n)=1.
6151 *3*	3/2⁻		J L N	Γ=125 eV *15* Jπ: from fit to resonance in (p,p).
6172.98[b] *17*	(19/2⁺)		B E	Jπ: γs to 15/2⁺, 19/2⁺ and 19/2⁻; γ sequence.
6174			J	
6182			J	
6184.2 *10*	5/2		JK	Jπ: γ decay of resonance and γ(θ) in (p,γ).
6190			J	
6198.1 *4*	(3/2,5/2⁺)		JK	Jπ: γ decay of resonance and γ(θ) in (p,γ).
6200			J	
6210			J	
6211			J	
6217.4 *3*	(3/2⁻,5/2⁺)		JK	Jπ: γ decay of resonance and γ(θ) in (p,γ).
6223	1/2⁺		L T	T=3/2 Γ=50 eV *10* Jπ: fit to resonance in (p,p).
6228 *3*			G J	
6242			J	
6247.2 *4*	(3/2,5/2)		JK	Jπ: γ decay of resonance and γ(θ) in (p,γ).
6253			J	
6262			J	
6280 *3*			J O	
6283.49[d] *17*	(21/2⁺)	110 fs *38*	B DE	Jπ: γ to (17/2⁺); ΔJ=1, D γ to 19/2⁻ and 19/2⁺.
6286			J	
6291			J	
6297			J	
6312			J	
6315			J	
6320.4 *3*	5/2⁺		JK	Jπ: γ decay of resonance and γ(θ) in (p,γ).
6348			J	
6355			J	
6370			J	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{43}Sc Levels (continued)

E(level)[†]	Jπ[#]	$T_{1/2}$[‡]	XREF	Comments
6374			J	
6384 *3*			J O	
6391			J	
6395			J	
6403			J	
6410			J	
6416			J	
6417.6			J L	
6426			J	
6431.04[c] *17*	$23/2^+$	16.3 ps *15*	B DEF	Jπ: ΔJ=2, E2 γ to $19/2^+$; γ to $19/2^-$.
6432			J	
6439 *3*	$1/2^+$		J L O	Γ=1.5 eV *5* Jπ: fit to resonance in (p,p).
6453			J	
6461			J	
6469			J	
6479			J	
6481			J	
6493			J	
6499			J	
6503			J	
6508			J	
6510.7	$1/2^+$[@]		L	
6515			J	
6535			J	
6547			J	
6551			J	
6558			J	
6561.4	$1/2^-$[@]		L	
6564.1	$1/2^+$[@]		J L	
6570.1	$1/2^+$[@]		J L	
6576			J	
6584			J	
6596			J	
6604			J	
6625			J	
6630.0	$1/2^-$[@]		J L	
6651.0	$1/2^+$[@]		L	
6665			J	
6674			J	
6677.4	$(1/2^-)$[@]		J L	
6680			J	
6684.4	$1/2^+$[@]		L	
6685.1 *4*	$1/2^-$		JK	T=1/2 Jπ: γ decay of resonance and γ(θ) in (p,γ).
6685.3	$3/2^-$[@]		L	
6694.8	$1/2^-$[@]		J L	
6696.2 *3*	5/2		JK	Jπ: γ decay of resonance and γ(θ) in (p,γ).
6709 *3*	$1/2^-$		jkL o	T=1/2 Jπ: γ decay of resonance in (p,γ).
6709.5	$1/2^-$[@]		jkL o	
6713			J	
6716			J	
6719			J	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{43}Sc Levels (continued)

E(level)[†]	Jπ[#]	$T_{1/2}$[‡]	XREF	Comments
6730			J	
6736.6	$3/2^{-}$[@]		J L	
6749			J	
6759			J	
6777.3 *3*	5/2		JK N	Jπ: γ decay of resonance and γ(θ) in (p,γ); L(d,n)=1 is inconsistent.
6786			J	
6794			J	
6795.1	$1/2^{-}$[@]		L	
6795.4	$1/2^{-}$[@]		L	
6801			J	
6811 *10*			O	
6814			J	
6814.5 *19*	($15/2^{-}$ to $23/2^{-}$)	94 fs *20*	D	
6815.3	$1/2^{+}$[@]		L	
6818.42 *17*	($21/2^{+}$)		B E	Jπ: γs to ($17/2^{+}$) and ($19/2^{+}$).
6827.0	$3/2^{-}$[@]		L	
6830			J	
6834			J	
6846			J	
6849.7	($3/2^{+}$)[@]		L	
6850.8	$1/2^{-}$[@]		L	
6853.9	($3/2^{+}$)[@]		L	
6855.0	$1/2^{-}$[@]		J L	
6859.0	($3/2^{+}$)[@]		L	
6861			J	
6868.2	$1/2^{+}$[@]		L	
6871			J	
6877			J	
6880.1	$1/2^{+}$[@]		J L	
6889			J	
6899.7	$1/2^{-}$[@]		J L	XREF: J(6901).
6906			J	
6912.4	$1/2^{+}$[@]		J L	
6918.6 *4*	7/2		K O	Jπ: γ decay of resonance and γ(θ) in (p,γ).
6920			J	
6925			J	
6934			J	
6936.4	$1/2^{+}$[@]		L	
6942			J	
6943.7	$1/2^{-}$[@]		L	
6946			J	
6961			J	
6966.0	($3/2^{+}$)[@]		J L	
6971			J	
6978.9	($3/2^{+}$)[@]		J L	
6983.6	$1/2^{-}$[@]		J L	
6991			J	
6996			J	
6999			J	
7004			J	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{43}Sc Levels (continued)

E(level)[†]	Jπ[#]	XREF	Comments
7013.7	(3/2⁻)[@]	J L	XREF: J(7015).
7022		J	
7024.7	(3/2⁺)[@]	J L	
7027.7	1/2⁻	L N	Jπ: fit to resonance in (p,p); L(d,n)=1.
7032.1	1/2⁺[@]	L	
7033		J	
7037.2	3/2⁻[@]	L	
7042		J	
7046.4	(5/2⁺)[@]	L	
7051		J	
7058		J	
7063		J	
7067.5	1/2⁺[@]	L	
7072		J	
7074.9	1/2⁻[@]	L	
7080		J	
7085.6	1/2⁻[@]	L	
7091		J	
7094.4	3/2⁻[@]	J L	
7099.1	1/2⁺[@]	J L	
7106.88[b] *17*	(23/2⁺)	B DE	Jπ: ΔJ=1, D γ to (21/2⁺); γ to (19/2⁺).
7108		J	
7116.8	1/2⁻[@]	J L	XREF: J(7118).
7118.8 *11*	(15/2,17/2,19/2⁺)	B E	Jπ: γ to 15/2⁺.
7123.4	(3/2⁺)[@]	L	
7125.0	1/2⁺[@]	L	
7127		J	
7132.3	(3/2⁺)[@]	L	
7135		J	
7138.0	3/2⁻[@]	L	
7140.2	1/2⁺[@]	J L	
7146		J	
7150.5	(3/2⁺)[@]	L	
7154		J	
7155.8	3/2⁻[@]	L	
7159	3/2⁺,5/2⁺	J N	Jπ: L(d,n)=2.
7170.2	1/2⁻[@]	J L	
7174		J	
7176.5	(5/2⁻)[@]	J L	
7180		J	
7183		J	
7185.2	(3/2⁺)[@]	L	
7198		J	
7211.0	(1/2⁻)[@]	J L	
7214		J	
7215.3	(1/2⁺)[@]	L	
7222.9	3/2⁺[@]	J L	
7227.1	(3/2⁺)[@]	J L	
7231.2	1/2⁻[@]	L	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{43}Sc Levels (continued)

E(level)†	Jπ#	$T_{1/2}$‡	XREF	Comments
7240.8	(3/2+)@		J L	
7247.5	1/2−@		L	
7251.0	(3/2+)@		J L	
7255.4	1/2+@		L	
7256.8	3/2−@		L	
7263			J	
7266.3	(3/2+)@		L	
7269			J	
7273.5 *7*	(15/2,17/2,19/2+)		B E	Jπ: γ to 15/2+.
7275			J	
7281.0	(1/2−)@		J L	
7285			J	
7288			J	
7289.8	3/2+@		L	
7290.9	(3/2+)@		L	
7295			J	
7302			J	
7305			J	
7307.6	3/2−@		L	
7309.1	1/2−@		L	
7311.2	(3/2+)@		L	
7313			J	
7315.8	1/2+@		L	
7326.9	1/2−@		L	
7329.5	(3/2+)@		L	
7339.4	1/2+@		L	
7344.1 *3*	3/2−,5/2		JK	Jπ: γ decay of resonance and γ(θ) in (p,γ).
7349			J	
7354			J	
7359.16[d] *17*	(25/2)+	340 fs *21*	B DEF	Jπ: ΔJ=1, M1 γ to 23/2+; γ to (21/2+).
7363.5	1/2+@		L	
7365.1	1/2−@		J L	
7369.7	1/2−@		L	
7370.8	1/2−@		L	
7373			J	
7378.5	1/2+@		L	
7380	1/2−,3/2−		N	Jπ: L(d,n)=1.
7382			J	
7385.5	(5/2−)@		L	
7388			J	
7390.3	1/2+@		L	
7394.18 *23*	3/2−,5/2+		JK	Jπ: γ decay of resonance and γ(θ) in (p,γ).
7395.7	3/2+@		L	
7402			J	
7412.4	1/2−@		J L	XREF: J(7411).
7414.5	(3/2+)@		J L	
7419.4	3/2−@		J L	XREF: J(7418).
7423			J	
7424.7	5/2+@		L	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{43}Sc Levels (continued)

E(level)†	Jπ#	XREF	Comments
7429		J	
7433		J	
7439.9	$5/2^+$@	L	
7443		J	
7445.0	$1/2^+$@	L	
7448.4	$1/2^-$@	L	
7450		J	
7461.7	$(3/2^+)$@	L	
7463.7	$3/2^-$@	L	
7466		J	
7471		J	
7476.6	$1/2^-$@	L	
7477.1	$(5/2^+)$@	L	
7478.6	$3/2^-$@	J L	XREF: J(7480).
7483.8	$(5/2^-)$@	J L	
7492.0	$1/2^+$@	J L	
7498		J	
7502.0	$(5/2^-)$@	J L	
7508.5	$3/2^-$@	L	
7512.3 *4*	$(7/2^+)$	JKL	Jπ: γ decay of resonance and γ(θ) in (p,γ). $1/2^-$ from (p,p) is inconsistent which may indicate a separate level.
7513		J	
7517.6	$(5/2^+)$@	J L	
7522		J	
7527.5	$(3/2^-)$@	L	
7530	$1/2^-,3/2^-$	J L N	Jπ: L(d,n)=1; $(3/2^-)$ from (p,p).
7536		J	
7539.1	$3/2^-$@	L	
7540.0	$1/2^+$@	L	
7544		J	
7551		J	
7557.1	$(5/2^+)$@	L	
7559		J	
7560.2	$3/2^-$@	L	
7564.1	$(3/2^+)$@	J L	
7570.1	$1/2^+$@	L	
7581.4 *4*	$(3/2^-,5/2,7/2^+)$	JK	Jπ: γ decay of resonance and γ(θ) in (p,γ).
7586.6	$1/2^-$@	L	
7592		J	
7595.5	$(3/2^+)$@	L	
7596.9	$1/2^-$@	L	
7599.6	$1/2^+$@	J L	
7604.5	$(3/2^+)$@	J L	XREF: J(7603).
7607		J	
7611		J	
7614.2	$3/2^-$@	L	
7615.6	$(1/2^-)$@	L	
7619.5	$1/2^-$@	J L	XREF: J(7418).
7620.8	$(3/2^+)$@	L	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{43}Sc Levels (continued)

E(level)†	Jπ#	XREF	Comments
7624		J	
7625.8	(3/2+)@	L	
7627.1	(5/2+)@	L	
7630.7	3/2−@	L	
7639.4	3/2−@	L	
7644.1	(3/2+)@	L	
7646.1	(3/2+)@	L	
7659.6	3/2−@	L	
7666.6	1/2+@	L	
7668.0	1/2+@	L	
7675.7	3/2−@	L	
7683.6	(5/2−)@	L	
7693.2	1/2−@	L	
7700	5/2−,7/2−	N	Jπ: L(d,n)=3.
7703.3	(5/2+)@	L	
7708.3	1/2+@	L	
7711.1	1/2−@	L	
7714.8	(5/2−)@	L	
7721.7	1/2−@	L	
7733.7	(5/2+)@	L	
7738.3	1/2−@	L	
7738.5	1/2+@	L	
7744.3	3/2−@	L	
7747.3	1/2−@	L	
7751.4	1/2−@	L	
7754.0	(5/2+)@	L	
7760.9	(5/2+)@	L	
7761.3	1/2−@	L	
7769.4	1/2+@	L	
7784.7	(3/2+)@	L	
7785.3	(5/2−)@	L	
7797.5	(5/2+)@	L	
7803.6	1/2+@	L	
7807.2	3/2−@	L	
7807.7	1/2−@	L	
7810.8	(3/2+)@	L	
7815.6	(5/2+)@	L	
7818.6	1/2+@	L	
7819.0	1/2+@	L	
7820.5	(5/2+)@	L	
7829.6	1/2−@	L	
7830.3	3/2−@	L	
7832.0	(5/2−)@	L	
7832.8	(3/2+)@	L	
7836.2	(5/2−)@	L	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{43}Sc Levels (continued)

E(level)[†]	Jπ[#]	$T_{1/2}$[‡]	XREF	Comments
7838.0	(3/2+)[@]		L	
7841.4	1/2+[@]		L	
7844.2	3/2−[@]		L	
7850.5	3/2−[@]		L	
7859.2	1/2−[@]		L	
7859.8	1/2−[@]		L	
7861.6	3/2+[@]		L	
7868.5	3/2−[@]		L	
7900	5/2−,7/2−		N	Jπ: L(d,n)=3.
7919	3/2+,(5/2+)[@]		L	
7926	1/2−,(3/2−)[@]		L	
7933	1/2+[@]		L	
7941	1/2+[@]		L	
7954	1/2−,(3/2−)[@]		L	
7961	1/2−,(3/2−)[@]		L	
8010.1 *4*	(19/2,21/2,23/2+)		B E	Jπ: γ to 19/2+.
8014	1/2−[@]		L	
8019	(3/2+,5/2+)[@]		L	
8021			M	
8027			M	
8034	(3/2+,5/2+)[@]		L	
8045	(3/2+,5/2+)[@]		L	
8048	1/2+[@]		L	
8054			M	
8061	1/2−[@]		L	
8063			M	
8065	3/2−,(1/2−)[@]		L	
8068	3/2−[@]		M	
8071	3/2−[@]		L	
8074	3/2−[@]		M	
8075	9/2+,(7/2+)[@]		L	
8093			M	
8111	5/2−,7/2−		MN	Jπ: L(d,n)=3.
8122			M	
8132			M	
8139			M	
8149			M	
8193			M	
8380	5/2−,7/2−		N	Jπ: L(d,n)=3.
8434.37 *17*	23/2(−)		B E	Jπ: ΔJ=2, Q γ to 19/2−.
8555.56[a] *19*	23/2(−)		B E	Jπ: ΔJ=2, Q γ to 19/2−; γ sequence.
8690	5/2−,7/2−		N	Jπ: L(d,n)=3.
8703.06 *18*	(25/2+)		B DE	Jπ: ΔJ=1, D γ to 23/2+.
8831.84[c] *18*	(27/2+)	74 fs *15*	B DE	Jπ: ΔJ=1, D γ to (25/2)+; γ to (23/2+).
8910	5/2−,7/2−		N	Jπ: L(d,n)=3.
9170	5/2−,7/2−		N	Jπ: L(d,n)=3.
9218.8 *4*	(21/2−)		B E	Jπ: (D) γ to 19/2−.
9450	5/2−,7/2−		N	Jπ: L(d,n)=3.
9578.86 *20*	(27/2+)		B E	Jπ: γs to (25/2)+ and 23/2+.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{43}Sc Levels (continued)

E(level)[†]	Jπ[#]	XREF	Comments
9750	5/2⁻,7/2⁻	N	Jπ: L(d,n)=3.
9995.10 *20*	(25/2⁻)	B E	Jπ: ΔJ=1, D γ to 23/2⁻; γ to (23/2⁺).
10040	5/2⁻,7/2⁻	N	Jπ: L(d,n)=3.
10084.47 *17*	27/2$^{(-)}$	B E	Jπ: ΔJ=1, D γ to (25/2⁺); ΔJ=2, Q γ to 23/2⁻.
10178.6 *6*	(23/2,25/2,27/2⁺)	B E	Jπ: γ to (23/2⁺).
10230	3/2⁺,5/2⁺	N	Jπ: L(d,n)=2.
10436.84[b] *23*	(25/2⁺)	B E	Jπ: γ to (23/2⁺); member of a sequence based on (19/2⁺).
10613.21 *19*	(27/2⁻)	B E	Jπ: ΔJ=1, D γ to (25/2⁺); ΔJ=2, Q γ to 23/2$^{(-)}$.
10750	5/2⁻,7/2⁻	N	Jπ: L(d,n)=3.
10856.18 *19*	(27/2⁻)	B E	Jπ: ΔJ=1 D γs to (25/2⁻) and (25/2)⁺.
10910	5/2⁻,7/2⁻	N	Jπ: L(d,n)=3.
11252.0 *4*	(25/2⁺)	B E	Jπ: ΔJ=(0) γ to (25/2⁺) from γ(θ).
11260	5/2⁻,7/2⁻	N	Jπ: L(d,n)=3.
11355.60[a] *23*	27/2$^{(-)}$	B E	Jπ: ΔJ=2, Q γ to 23/2⁻; γ to (25/2)⁺; γ sequence.
11560	5/2⁻,7/2⁻	N	Jπ: L(d,n)=3.
11661.0 *5*		B E	
11807.36 *19*	(29/2⁻)	B E	Jπ: ΔJ=1 γs to (27/2⁺) and (27/2⁻).
11840	1/2⁻,3/2⁻	N	Jπ: L(d,n)=1.
11920.54 *25*	(25/2⁺)	B E	Jπ: D γs to 23/2⁺ and (25/2)⁺.
12053.33 *19*	(29/2⁻)	B E	Jπ: ΔJ=1, D γ to 27/2$^{(-)}$; γ to (25/2⁻).
12073.15 *21*	(29/2⁻)	B E	Jπ: ΔJ=1, D γ to 27/2$^{(-)}$.
12090	1/2⁻,3/2⁻	N	Jπ: L(d,n)=1.
12614.84 *19*	(31/2⁻)	B E	Jπ: ΔJ=2, Q γ to 27/2$^{(-)}$.
12703.9 *9*		B E	
12804.39 *24*	(27/2,29/2)	B E	Jπ: γs to 27/2$^{(-)}$ and (27/2⁺).
13044.65[b] *22*	(29/2⁺)	B E	Jπ: ΔJ=1, D γ to (27/2⁺); γ to (25/2⁺).
13116.57 *21*	(31/2⁻)	B E	Jπ: ΔJ=2, Q to 27/2$^{(-)}$; ΔJ=1, D γ to (29/2⁻).
13122.7 *6*		B E	
13584.1 *4*	(29/2⁺)	B E	Jπ: ΔJ=1, D γ to (27/2⁺).
14405.80 *19*	(33/2⁻)	B E	Jπ: ΔJ=1, D γ to (31/2⁻); ΔJ=2, Q γ to (29/2⁻).
14451.1 *3*	(29/2⁺)	B E	Jπ: γs to (25/2⁺) and (27/2⁺).
14561.2[a] *3*	(31/2⁻)	B E	Jπ: γ to (29/2⁻); ΔJ=2, Q γ to 27/2$^{(-)}$; γ sequence.
14914.3 *3*	(31/2)	B E	Jπ: ΔJ=2, Q γ to (27/2⁺).
15910.7[b] *3*	(33/2⁺)	B E	Jπ: γs to (29/2⁺) and 31/2⁻.
16703.6 *6*		B E	
16708.4 *5*		B E	
16711.2 *6*		B E	
17767.4 *3*	(35/2)	B E	Jπ: ΔJ=(2), (Q) γ to (31/2).
17921.1 *4*	(31/2⁺)	B E	Jπ: ΔJ=1, (D) γ to (29/2⁺).
18196.8[a] *5*	(35/2⁻)	B E	Jπ: ΔJ=2, Q γ to (31/2⁻).
18765.3 *4*	(37/2)	B E	Jπ: ΔJ=1, D γ to (35/2).
19208.6[b] *4*	(37/2⁺)	B E	Jπ: γ to (33/2⁺).

[†] From adopted Eγ data when measured γ-ray energies are available. In other cases weighted averages are taken of values available from different reactions. Values for proton resonances in (p,γ) and (p,p) reactions are considered to be associated with different excitation energies if separated by more than ≈1 keV. Relative uncertainty of excitation energies deduced from proton resonances is 0.1 keV in (p,p) and 1 keV in (p,γ), whereas the absolute uncertainty is 2 keV, essentially due to uncertainty in S(p).

[‡] Weighted averages from (α,pγ), (p,γ), (^{16}O,pnγ) and (^{19}F,p2nγ) unless otherwise noted.

[#] In particle-transfer reactions, target $J^\pi=0^+$ except for ^{45}Sc(p,t) where target $J^\pi=7/2^-$. When assigning J^π to a level based on γ transitions from this level to a level of known J^π, evaluators use the following rules: if Eγ<4 MeV, transitions are only

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{43}Sc Levels (continued)

considered to be E1,M1 or E2; if Eγ>4 MeV, M2 and E3 are considered to be possible. In heavy-ion fusion experiments leading to high-spin (>13/2 or so) it is assumed that spins generally ascend with excitation energy due to yrast nature of population of levels in such studies.

[@] From (p,p) resonance.

[&] Band(A): γ sequence based on g.s..

[a] Band(B): γ sequence based on $7/2^-$.

[b] Band(C): γ sequence based on $(19/2^+)$.

[c] Band(D): γ sequence based on $3/2^+$.

[d] Band(E): γ sequence based on $5/2^+$.

Adopted Levels, Gammas (continued)

γ(^{43}Sc)

E_i(level)	J_i^π	E_γ [†]	I_γ [#]	E_f	J_f^π	Mult. [@&]	δ [&]	α [a]	Comments
151.79	3/2+	151.65 *17*	100	0.0	7/2−	M2		0.0406	B(M2)(W.u.)=0.0691 *11* Mult.: from α(expt)=0.041 *4* (1972Bi13) in ^{43}Ca(p,nγ); α(K)(expt)=0.031 *2*, K/L(expt)=9.0 *7* (1966WaZW) in ^{40}Ca(α,pγ).
472.60	3/2−	320.1	4.2 *11*	151.79	3/2+	[E1]			B(E1)(W.u.)=4.3×10^{-6} *12*
		472.5 *2*	100.0 *21*	0.0	7/2−	E2			B(E2)(W.u.)=16.3 *15* Mult.: from α(K)(expt)=7.7×10^{-4} *19* (1966WaZW) in ^{40}Ca(α,pγ).
845.18	5/2−	373.2	<5	472.60	3/2−				E_γ,I_γ: as quoted by 1978En02.
		692.3	<4	151.79	3/2+				E_γ,I_γ: as quoted by 1978En02.
		845.2 *1*	100	0.0	7/2−	M1+E2	+0.15 *4*		B(M1)(W.u.)=0.228 *17*; B(E2)(W.u.)=21 *11* E_γ,I_γ: as quoted by 1978En02.
855.65	1/2+	383.1	26 *4*	472.60	3/2−	[E1]			B(E1)(W.u.)=9.2×10^{-5} *20*
		703.2	100 *4*	151.79	3/2+				
880.64	5/2+	408.3	<5	472.60	3/2−				E_γ,I_γ: as quoted by 1978En02.
		728.7 *1*	100 *1*	151.79	3/2+	M1+E2	−0.52 *7*		B(M1)(W.u.)=0.0092 *21*; B(E2)(W.u.)=13 *5*
		880.5 *2*	3.6 *2*	0.0	7/2−	[E1]			B(E1)(W.u.)=5.0×10^{-6} *20*
1158.76	3/2+	278.1	36 *5*	880.64	5/2+	M1(+E2)	+0.2 *2*		B(M1)(W.u.)=0.041 *12*; B(E2)(W.u.)<180
		303.3	53 *16*	855.65	1/2+	M1(+E2)	+0.2 *2*		B(M1)(W.u.)=0.047 *19*; B(E2)(W.u.)<180
		313.2	<6	845.18	5/2−				
		686.4	4 *2*	472.60	3/2−	[E1]			B(E1)(W.u.)=8.E−6 *5*
		1006.5	100 *4*	151.79	3/2+	M1+E2	−1.3 *+6−15*		B(M1)(W.u.)=0.0009 *6*; B(E2)(W.u.)=4.5 *19*
1178.98	3/2−	298.6 [‡b]	1	880.64	5/2+				
		333.7	18 *3*	845.18	5/2−	[M1]			B(M1)(W.u.)=0.27 *12*
		706.9	100 *6*	472.60	3/2−	M1+E2	−0.18 *13*		B(M1)(W.u.)=0.15 *7*; B(E2)(W.u.)=30 *+50−28*
		1178.9	22 *3*	0.0	7/2−	[E2]			B(E2)(W.u.)=15 *7*
1337.53	7/2+	456.73 *10*	39.4 *15*	880.64	5/2+	M1+E2	−0.23 *4*		B(M1)(W.u.)=0.06 *3*; B(E2)(W.u.)=46 *24* I_γ: 26 *2* in (p,γ) E=res seems discrepant and is not included in averaging.
		1185.6 *1*	100 *2*	151.79	3/2+	E2			B(E2)(W.u.)=20 *9*
		1338.0 *1*	26.9 *13*	0.0	7/2−	E1+M2	−0.10 *8*		B(E1)(W.u.)=4.5×10^{-5} *19*; B(M2)(W.u.)<3
1408.09	7/2−	562.9 *2*	17.1 *12*	845.18	5/2−	[M1]			B(M1)(W.u.)=0.09 *3* Additional information 2.
		936.0 *8*	6.3 *11*	472.60	3/2−	[E2]			B(E2)(W.u.)=24 *9* Additional information 3.
		1408.06 *12*	100 *2*	0.0	7/2−	M1+E2	+0.15 *5*		B(M1)(W.u.)=0.033 *11*; B(E2)(W.u.)=1.1 *8*
1651.22	5/2+	492.4	32 *4*	1158.76	3/2+	M1(+E2)	0.0 *2*		B(M1)(W.u.)=0.19 *4*
		770.5	12 *3*	880.64	5/2+				
		795.7	5.4 *20*	855.65	1/2+	[E2]			B(E2)(W.u.)=34 *14*
		1498.9	100 *5*	151.79	3/2+	M1(+E2)	−0.05 *18*		B(M1)(W.u.)=0.021 *4*; B(E2)(W.u.)<0.6
		1650.8	25 *4*	0.0	7/2−	[E1]			B(E1)(W.u.)=9.8×10^{-5} *23*
1811.1	3/2−	631.8	100 *7*	1178.98	3/2−	M1+E2	−0.22 *7*		B(M1)(W.u.)=2.1 *8* B(E2)(W.u.)=720 +1230-470 as compared to RUL(E2)=300 suggests δ(E2/M1)≤0.15.

$^{43}_{21}Sc_{22}$-15

Adopted Levels, Gammas (continued)

γ(^{43}Sc) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [#]	E_f	J_f^π	Mult. [@&]	δ [&]	Comments
1811.1	3/2$^-$	955.6	41 *10*	855.65	1/2$^+$	[E1]		B(E1)(W.u.)=0.006 *3*
		1338.7	85 *7*	472.60	3/2$^-$	M1+E2	−0.22 *7*	B(M1)(W.u.)=0.18 *8*; B(E2)(W.u.)=14 *11*
		1658.8	26 *8*	151.79	3/2$^+$	[E1]		B(E1)(W.u.)=0.0008 *4*
1830.33	11/2$^-$	1830.10 *13*	100	0.0	7/2$^-$	E2		B(E2)(W.u.)=15.4 *24*
1882.8	(5/2,9/2)$^-$	1002.3[‡b]	21	880.64	5/2$^+$			
		1038.4[b]	<5	845.18	5/2$^-$			I_γ: from (α,pγ), Iγ=16 in (p,γ).
		1730[b]		151.79	3/2$^+$			
		1882.5 *3*	100 *14*	0.0	7/2$^-$	M1+E2	−0.19 *2*	B(M1)(W.u.)=0.07 *4*; B(E2)(W.u.)=2.2 *12* δ: for J=9/2, +0.42 *3* for J=5/2 in (α,pγ).
1932.55	9/2$^+$	595.1 *1*	37.5 *10*	1337.53	7/2$^+$	M1+E2	−0.19 *4*	B(M1)(W.u.)=0.011 *3*; B(E2)(W.u.)=3.3 *16* I_γ: 19 *2* in (p,γ) E=res seems discrepant and is not included in averaging.
		1051.9 *1*	100 *3*	880.64	5/2$^+$	E2		B(E2)(W.u.)=15 *4*
		1931.4[‡b]	1	0.0	7/2$^-$			
1962.89	(3/2,5/2)$^-$	784.0	15 *2*	1178.98	3/2$^-$	M1(+E2)	−0.04 *25*	B(M1)(W.u.)=0.082 *18*; B(E2)(W.u.)<0.8
		804.5	4 *1*	1158.76	3/2$^+$	[E1]		B(E1)(W.u.)=0.00051 *15*
		1490.2 *2*	100 *2*	472.60	3/2$^-$	M1+E2	+0.21 *6*	B(M1)(W.u.)=0.077 *13*; B(E2)(W.u.)=4.4 *25*
		1962.5[‡b]		0.0	7/2$^-$			
2094.8	3/2$^-$	915.4	100 *9*	1178.98	3/2$^-$	M1(+E2)	0.00 *10*	B(M1)(W.u.)=0.033 *10* I_γ: from (p,γ):E=res, also for other γ transitions from the same level.
		1214.0[‡]	30 *6*	880.64	5/2$^+$	[E1]		B(E1)(W.u.)=0.00011 *4*
		1239.2	55 *6*	855.65	1/2$^+$	[E1]		B(E1)(W.u.)=0.00018 *6*
		1249.1[‡]	33 *6*	845.18	5/2$^-$			E_γ: Seen also in (α,pγ), but the placement is uncertain.
		1622.3	33 *9*	472.60	3/2$^-$			
		1942.4	54 *9*	151.79	3/2$^+$	[E1]		B(E1)(W.u.)=4.6×10^{-5} *15*
2106.6	(3/2,5/2)	455.4[b]	17 *9*	1651.22	5/2$^+$			
		947.6	33 *8*	1158.76	3/2$^+$			
		1225.7	100 *6*	880.64	5/2$^+$			
		1954.1[b]	10	151.79	3/2$^+$			
2114.5		955.9[‡]	79 *9*	1158.76	3/2$^+$			Additional information 4.
		1962.4[‡]	100 *13*	151.79	3/2$^+$			
2142.0	(3/2$^-$,5/2$^+$)	490.9[‡]	38	1651.22	5/2$^+$			I_γ: from (p,γ):E=res, also for other γ transitions from the same level.
		962.8[‡]	6 *3*	1178.98	3/2$^-$			
		983.3	15 *6*	1158.76	3/2$^+$			
		1261.4	100 *9*	880.64	5/2$^+$	(D+Q)	+0.27 *10*	
		1286.6[‡]	12 *6*	855.65	1/2$^+$			
		1669.7	42 *8*	472.60	3/2$^-$			
		1989.8	74 *6*	151.79	3/2$^+$			I_γ: from ^{42}Ca(p,γ) E=Res. Other: 29 *6* from ^{40}Ca(α,pγ). Unweighted average is 52 *22*.
		2141.6	18 *7*	0.0	7/2$^-$	D(+Q)	0.00 *4*	

$^{43}_{21}Sc_{22}$-16

Adopted Levels, Gammas (continued)

γ(^{43}Sc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[#]	E_f	J_f^π	Mult.[@&]	δ[&]	Comments
2242.8	(3/2,5/2,7/2)$^-$	1397.4	44	845.18	5/2$^-$			
		1770.6	100	472.60	3/2$^-$			
		2242.5	32	0.0	7/2$^-$			
2288.65	5/2$^-$	880.7 *5*	1.1 *2*	1408.09	7/2$^-$			
		1443.5 *3*	1.3 *3*	845.18	5/2$^-$			
		1815.4 *4*	0.9 *5*	472.60	3/2$^-$			
		2137.1 *1*	2.1 *4*	151.79	3/2$^+$	[E1]		B(E1)(W.u.)>5.4×10^{-5}
		2288.3 *1*	100 *4*	0.0	7/2$^-$	M1+E2	+0.08 *5*	B(M1)(W.u.)>0.082
2335.47	5/2$^-$	2335.4 *1*	100	0.0	7/2$^-$	M1(+E2)	+0.08 *5*	B(M1)(W.u.)=0.06 *3*; B(E2)(W.u.)<0.5
2383.1	3/2$^{(+)}$	731.9	100	1651.22	5/2$^+$			
		1527.6	45	855.65	1/2$^+$	(M1+E2)	+0.49 *7*	B(M1)(W.u.)<0.0053; B(E2)(W.u.)<1.8
2458.68	(5/2,9/2)$^-$	2458.6 *1*	100	0.0	7/2$^-$	M1(+E2)	+0.15 *7*	B(M1)(W.u.)=0.038 *14*; B(E2)(W.u.)<0.8 δ: for J=5/2, −0.02 *5* for J=9/2.
2553.54	11/2$^+$	620.35 *15*	100 *3*	1932.55	9/2$^+$	(M1)		B(M1)(W.u.)=0.103 *15*
		1216.07 *12*	76 *3*	1337.53	7/2$^+$	(E2)		B(E2)(W.u.)=20 *3*
2580.8	(5/2)	1421.6	52 *10*	1158.76	3/2$^+$			
		1699.7	40 *8*	880.64	5/2$^+$			
		2428.0	100 *13*	151.79	3/2$^+$			
2635.35	(11/2)$^-$	804.4 *3*	34 *3*	1830.33	11/2$^-$	(M1)		B(M1)(W.u.)=0.031 *11*
		1227.1 *3*	89 *7*	1408.09	7/2$^-$	[E2]		B(E2)(W.u.)=43 *16*
		2636.0 *3*	100 *15*	0.0	7/2$^-$	[E2]		B(E2)(W.u.)=1.1 *4*
2650.5		1806.6		845.18	5/2$^-$			
2670.5	3/2$^-$	1491.4[‡]	16 *4*	1178.98	3/2$^-$			
		1790.0[‡]	43 *8*	880.64	5/2$^+$			
		1815.2	100 *4*	855.65	1/2$^+$			
		2198.2	45 *6*	472.60	3/2$^-$			
2760.10	(5/2,7/2,9/2)$^-$	2760.0 *1*	100	0.0	7/2$^-$			
2795.4	3/2$^-$,5/2$^-$	1387.2	36	1408.09	7/2$^-$			
		1950.0	87	845.18	5/2$^-$			
		2643.8[‡*b*]	29	151.79	3/2$^+$			
		2795.1	100	0.0	7/2$^-$			
2811.1	(5/2,7/2,9/2)	704.7	76 *9*	2106.6	(3/2,5/2)			
		1473.9	100 *11*	1337.53	7/2$^+$			
		2810.6	70 *30*	0.0	7/2$^-$			
2840.7	(5/2,7/2)$^+$	457.3	41	2383.1	3/2$^{(+)}$			
		1503.2	100	1337.53	7/2$^+$			
		1959.7[‡*b*]	37	880.64	5/2$^+$			
		2839.9	86	0.0	7/2$^-$			
2846.2		2846.1	100	0.0	7/2$^-$			
2860.8	(1/2,3/2,5/2)$^+$	1210.2	14 *5*	1651.22	5/2$^+$			
		1682.1[‡]	16 *5*	1178.98	3/2$^-$			
		1702.6[‡]	23 *7*	1158.76	3/2$^+$			

$^{43}_{21}Sc_{22}$-17

Adopted Levels, Gammas (continued)

γ(^{43}Sc) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [#]	E_f	J_f^π	Mult. [@&]	α [a]	Comments
2860.8	(1/2,3/2,5/2)$^+$	1980.7	100 *5*	880.64	5/2$^+$			
		2709.0	75 *7*	151.79	3/2$^+$			
2874.7	(5/2)$^+$	2723‡		151.79	3/2$^+$			
2985.0	(3/2,5/2)	1648.1 [b]		1337.53	7/2$^+$			I_γ: 84 in (α,pγ) but this branch is either absent (see 1977Di17) in (p,γ) or at the most Iγ=16.
		1806.0‡	34 *8*	1178.98	3/2$^-$			
		2104.5	71 *5*	880.64	5/2$^+$			
		2139.6	58 *8*	845.18	5/2$^-$			
		2832.9	100 *8*	151.79	3/2$^+$			
2988.12	15/2$^-$	1157.5 *1*	100	1830.33	11/2$^-$	E2		B(E2)(W.u.)=5.4 *7*
3123.73	19/2$^-$	135.6 *1*	100	2988.12	15/2$^-$	E2	0.0934	B(E2)(W.u.)=2.67 *2*
3142.05	13/2$^+$	588.2 *1*	9.4 *3*	2553.54	11/2$^+$	(M1+E2)		B(M1)(W.u.)<0.017
		1209.8 *1*	100 *3*	1932.55	9/2$^+$	E2		B(E2)(W.u.)<41
3159.3	(3/2$^-$,5/2,7/2$^+$)	2278.4	50	880.64	5/2$^+$			
		3006.8	88	151.79	3/2$^+$			
		3158.7	100	0.0	7/2$^-$			
3198.2	(1/2 to 7/2$^-$)	2725.5	100	472.60	3/2$^-$			
3260.1	(7/2,9/2)$^-$	1432 [b]	4.2	1830.33	11/2$^-$			E_γ: from (α,pγ) only.
		3259.6 *10*	100	0.0	7/2$^-$			
3292.4	7/2$^-$	1360.6 *4*	90	1932.55	9/2$^+$			E_γ: seen only in (α,pγ).
		1479.9‡ [b]	21 *5*	1811.1	3/2$^-$			
		2113.9	100 *12*	1178.98	3/2$^-$			
		2412.5	21 *7*	880.64	5/2$^+$			
		2447.6	91 *9*	845.18	5/2$^-$			
3326.8	(3/2$^-$ to 9/2)	3327.1‡		0.0	7/2$^-$			
3332.2	(3/2$^-$,5/2)	1369‡	4 *2*	1962.89	(3/2,5/2)$^-$			
		1521‡	13 *4*	1811.1	3/2$^-$			
		2153	100 *4*	1178.98	3/2$^-$			
		2174‡	44 *4*	1158.76	3/2$^+$			
		2487	29 *6*	845.18	5/2$^-$			
		2860	19 *4*	472.60	3/2$^-$			
		3334		0.0	7/2$^-$			E_γ: seen only in (α,pγ).
3375.3	(7/2,9/2)$^-$	1492.6	53	1882.8	(5/2,9/2)$^-$			
		1545.3	63	1830.33	11/2$^-$			
		1967.2	100	1408.09	7/2$^-$			
		2038.3	40	1337.53	7/2$^+$	[E1]		B(E1)(W.u.)>0.00013
		3375.1	77	0.0	7/2$^-$			
3452.1	5/2$^+$	1640.8 [b]	270	1811.1	3/2$^-$			γ from (α,pγ) only.
		2571.1	100 *7*	880.64	5/2$^+$			
		2606.2	45 *7*	845.18	5/2$^-$			
		3299.9‡	55 *7*	151.79	3/2$^+$			

$^{43}_{21}Sc_{22}$-18

Adopted Levels, Gammas (continued)

γ(^{43}Sc) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [#]	E_f	J_f^π	Mult. [@&]	δ [&]
3452.1	5/2$^+$	3451.3[‡]	27 *9*	0.0	7/2$^-$		
3463.3	5/2$^-$	2582.9[‡]	37 *4*	880.64	5/2$^+$		
		3311.3	100 *7*	151.79	3/2$^+$		
3503.2	7/2$^-$	2658[‡]	100 *10*	845.18	5/2$^-$		
		3503[‡]	100 *10*	0.0	7/2$^-$		
3631.7	(5/2$^-$,7/2$^-$,9/2$^-$)	3631.5 *10*	100	0.0	7/2$^-$		
3645.6	(3/2,5/2,7/2$^-$)	1682.5	34 *11*	1962.89	(3/2,5/2)$^-$		
		1994.5	66 *13*	1651.22	5/2$^+$		
		2466.4	100 *16*	1178.98	3/2$^-$		
		2765.0	63 *13*	880.64	5/2$^+$		
3683.2	(3/2,5/2,7/2)	2803	25 *4*	880.64	5/2$^+$		
		2838	56 *6*	845.18	5/2$^-$		
		3531	100 *7*	151.79	3/2$^+$		
3734.0		1445.5	31	2288.65	5/2$^-$		
		2325.7	83	1408.09	7/2$^-$		
		2888.5	100	845.18	5/2$^-$		
3755.43	15/2$^+$	614.1 *6*	100 *3*	3142.05	13/2$^+$	M1+E2	−0.11 *8*
		766.9 *2*	3.00 *14*	2988.12	15/2$^-$	D	
		1202.4 *3*	18.9 *6*	2553.54	11/2$^+$	Q	
3756.5	(3/2$^-$,5/2,7/2$^+$)	3605	100 *10*	151.79	3/2$^+$		
		3757	43 *7*	0.0	7/2$^-$		
3807.2	7/2$^-$	2469.7	24 *6*	1337.53	7/2$^+$		
		2926.2	100 *5*	880.64	5/2$^+$		
		3334.5	35 *8*	472.60	3/2$^-$		
3843.0	(≤9/2)	2998		845.18	5/2$^-$		
3860.1	(≤7/2)	3708		151.79	3/2$^+$		
3959.87	15/2$^-$	971.5 *1*	14.8 *6*	2988.12	15/2$^-$	D	
		1324.5 *1*	17.2 *7*	2635.35	(11/2)$^-$	Q	
		2129.7 *1*	100 *3*	1830.33	11/2$^-$	Q	
4007.3	(3/2,5/2)$^+$	3126	83 *20*	880.64	5/2$^+$		
		3152	100 *20*	855.65	1/2$^+$		
		3535	50 *13*	472.60	3/2$^-$		
		3855	100 *17*	151.79	3/2$^+$		
4038.8	7/2$^-$	2107	100 *13*	1932.55	9/2$^+$		
		3566	67 *15*	472.60	3/2$^-$		
4158.6	(9/2,11/2,13/2)$^-$	1605	100	2553.54	11/2$^+$		
4301.2	(9/2,11/2,13/2$^+$)	2368.6 *5*	100	1932.55	9/2$^+$		
4371.5	5/2$^-$,7/2$^-$	2265	37 *7*	2106.6	(3/2,5/2)		
		2720	32 *10*	1651.22	5/2$^+$		
		2963	49 *12*	1408.09	7/2$^-$		
		3034	100 *10*	1337.53	7/2$^+$		
		3491	27 *7*	880.64	5/2$^+$		

$^{43}_{21}Sc_{22}$-19

Adopted Levels, Gammas (continued)

γ(^{43}Sc) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [#]	E_f	J_f^π	Mult. [@&]	Comments
4383.03	$17/2^{(-)}$	1258.8 *9*	100	3123.73	$19/2^-$	D+Q	E_γ: γ not seen in ^{24}Mg(^{24}Mg,αpγ) and ^{28}Si(^{20}Ne,αpγ) (2007Ch40) due to this transition feeding 470-ns isomer.
		1394.9 *2*	24	2988.12	$15/2^-$	D	
4430.2	$(1/2^+,3/2,5/2)$	3251	100 *15*	1178.98	$3/2^-$		
		3271	75 *13*	1158.76	$3/2^+$		
		3550	75 *10*	880.64	$5/2^+$		
4455.3	(5/2 to 9/2)	4455	100	0.0	$7/2^-$	D+Q	
4633.6	(17/2,21/2)	1509.8 *19*	100	3123.73	$19/2^-$	D+Q	
5231.33	$(17/2^+)$	1475.5 *6*	100	3755.43	$15/2^+$	D+Q	
5519.00	$19/2^+$	287.9 *1*	2.34 *9*	5231.33	$(17/2^+)$	(M1)	B(M1)(W.u.)>0.26
		1763.3 *1*	27.9 *11*	3755.43	$15/2^+$	E2	B(E2)(W.u.)>13
		2394.86 *12*	100	3123.73	$19/2^-$	(E1)	B(E1)(W.u.)>0.00050
5793.51	$(15/2,17/2,19/2^-)$	1833.6 *2*	100	3959.87	$15/2^-$		
5919.4	3/2	2629	33	3292.4	$7/2^-$		
		3249	33	2670.5	$3/2^-$		
		3338	33	2580.8	(5/2)		
		3536	67	2383.1	$3/2^{(+)}$		
		4268	67	1651.22	$5/2^+$		
		4740	33	1178.98	$3/2^-$		
		4760	67	1158.76	$3/2^+$		
		5038	67	880.64	$5/2^+$		
		5074	100	845.18	$5/2^-$		
		5446	67	472.60	$3/2^-$		
		5767	100	151.79	$3/2^+$		
5950.5	(3/2,5/2)	2619	62	3332.2	$(3/2^-,5/2)$		
		2660	19	3292.4	$7/2^-$		
		3369	14	2580.8	(5/2)		
		3615	5	2335.47	$5/2^-$		
		3661	5	2288.65	$5/2^-$		
		3808	10	2142.0	$(3/2^-,5/2^+)$		
		3836	5	2114.5			
		3856	10	2094.8	$3/2^-$		
		3987	33	1962.89	$(3/2,5/2)^-$		
		4139	5	1811.1	$3/2^-$		
		4299	67	1651.22	$5/2^+$		
		4771	100	1178.98	$3/2^-$		
		4791	14	1158.76	$3/2^+$		
		5094	43	855.65	$1/2^+$		
		5105 [b]		845.18	$5/2^-$		
		5477	43	472.60	$3/2^-$		
		5798	43	151.79	$3/2^+$		
6060.5	(5/2)	6060		0.0	$7/2^-$		
6067.23	$19/2^-$	2107.3 *1*	100 *3*	3959.87	$15/2^-$	E2	B(E2)(W.u.)=21 *5*

$^{43}_{21}Sc_{22}$-20

Adopted Levels, Gammas (continued)

γ(^{43}Sc) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [#]	E_f	J_f^π	Mult. [@&]	Comments
6067.23	19/2$^-$	3079.0 *1*	30.5 *10*	2988.12	15/2$^-$	E2	B(E2)(W.u.)=0.97 *22*
6103.2	(3/2$^-$,5/2$^+$)	2260	1.6	3843.0	(≤9/2)		
		2651	10	3452.1	5/2$^+$		
		2943	1.6	3159.3	(3/2$^-$,5/2,7/2$^+$)		
		3116	1.6	2985.0	(3/2,5/2)		
		3257	1.6	2846.2			
		3262	<1.6	2840.7	(5/2,7/2)$^+$		
		3961	13	2142.0	(3/2$^-$,5/2$^+$)		
		3996	5	2106.6	(3/2,5/2)		
		4695	5	1408.09	7/2$^-$		
		4766	8	1337.53	7/2$^+$		
		4924	3	1178.98	3/2$^-$		
		5247	1.6	855.65	1/2$^+$		
		5258	3	845.18	5/2$^-$		
		5630	1.6	472.60	3/2$^-$		
		5951	100	151.79	3/2$^+$		
		6103	5	0.0	7/2$^-$		
6136.2	3/2	3150[b]	30	2985.0	(3/2,5/2)		
		3466[b]	15	2670.5	3/2$^-$		
		3555	35	2580.8	(5/2)		
		3994	24	2142.0	(3/2$^-$,5/2$^+$)		
		4041	71	2094.8	3/2$^-$		
		4173	100	1962.89	(3/2,5/2)$^-$		
		4485	35	1651.22	5/2$^+$		
		4957	65	1178.98	3/2$^-$		
		4977	53	1158.76	3/2$^+$		
		5255	41	880.64	5/2$^+$		
		5280	18	855.65	1/2$^+$		
		5291	24	845.18	5/2$^-$		
		5663	24	472.60	3/2$^-$		
		5984	100	151.79	3/2$^+$		
6143.4	3/2$^-$	2336	21	3807.2	7/2$^-$		
		2853	21	3292.4	7/2$^-$		
		3156	37	2985.0	(3/2,5/2)		
		3473	32	2670.5	3/2$^-$		
		4048	32	2094.8	3/2$^-$		
		4180	26	1962.89	(3/2,5/2)$^-$		
		4332	11	1811.1	3/2$^-$		
		4964	68	1178.98	3/2$^-$		
		4984	16	1158.76	3/2$^+$		
		5262	11	880.64	5/2$^+$		
		5287	100	855.65	1/2$^+$		
		5298	53	845.18	5/2$^-$		

$^{43}_{21}Sc_{22}$-21

Adopted Levels, Gammas (continued)

γ(^{43}Sc) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [#]	E_f	J_f^π	Mult. [@&]	Comments
6143.4	3/2$^-$	5670	16	472.60	3/2$^-$		
		5991	74	151.79	3/2$^+$		
		6143	11	0.0	7/2$^-$		
6172.98	(19/2$^+$)	653.9 *2*	56 *5*	5519.00	19/2$^+$		
		941.4 *1*	94 *4*	5231.33	(17/2$^+$)		
		2418.3 *2*	100 *5*	3755.43	15/2$^+$		
		3048.6 *8*	33 *8*	3123.73	19/2$^-$		
6184.2	5/2	6032		151.79	3/2$^+$		
6198.1	(3/2,5/2$^+$)	2464	16	3734.0			
		3862	20	2335.47	5/2$^-$		
		4056	16	2142.0	(3/2$^-$,5/2$^+$)		
		4103	52	2094.8	3/2$^-$		
		4235	12	1962.89	(3/2,5/2)$^-$		
		4547	48	1651.22	5/2$^+$		
		5317	100	880.64	5/2$^+$		
		5342	60	855.65	1/2$^+$		
		5353	12	845.18	5/2$^-$		
		6046	64	151.79	3/2$^+$		
6217.4	(3/2$^-$,5/2$^+$)	2357	2	3860.1	(≤7/2)		
		2572	6	3645.6	(3/2,5/2,7/2$^-$)		
		2765	6	3452.1	5/2$^+$		
		3230	8	2985.0	(3/2,5/2)		
		3357	12	2860.8	(1/2,3/2,5/2)$^+$		
		3547	10	2670.5	3/2$^-$		
		4075	4	2142.0	(3/2$^-$,5/2$^+$)		
		4110	2	2106.6	(3/2,5/2)		
		4122	4	2094.8	3/2$^-$		
		4406	6	1811.1	3/2$^-$		
		4809	2	1408.09	7/2$^-$		
		4880	<2	1337.53	7/2$^+$		
		5336	6	880.64	5/2$^+$		
		5361	100	855.65	1/2$^+$		
		5744	16	472.60	3/2$^-$		
		6065	8	151.79	3/2$^+$		
		6217	8	0.0	7/2$^-$		
6247.2	(3/2,5/2)	4105	50	2142.0	(3/2$^-$,5/2$^+$)		
		4152	17	2094.8	3/2$^-$		
		4284	33	1962.89	(3/2,5/2)$^-$		
		5068	17	1178.98	3/2$^-$		
		5366	33	880.64	5/2$^+$		
		5402	83	845.18	5/2$^-$		
		6095	100	151.79	3/2$^+$		
6283.49	(21/2$^+$)	764.3 *1*	24.2 *20*	5519.00	19/2$^+$	(M1)	B(M1)(W.u.)=0.07 *3*

$^{43}_{21}Sc_{22}$-22

Adopted Levels, Gammas (continued)

γ(^{43}Sc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[#]	E_f	J_f^π	Mult.[@&]	δ[&]	Comments
6283.49	(21/2$^+$)	1052.9 *4*	1.3 *10*	5231.33	(17/2$^+$)	[E2]		B(E2)(W.u.)=8 *4*
		1648[b]	39	4633.6	(17/2,21/2)			E_γ: reported as tentative γ only in ^{27}Al(^{19}F,p2nγ).
		3159.8 *2*	100 *5*	3123.73	19/2$^-$	(E1)		B(E1)(W.u.)=9.E−5 *4*
6320.4	5/2$^+$	2513	11	3807.2	7/2$^-$			
		2868	5	3452.1	5/2$^+$			
		3333	11	2985.0	(3/2,5/2)	D+Q	−0.02 *4*	
		3739	3	2580.8	(5/2)			
		3937	2	2383.1	3/2$^{(+)}$	D+Q	−0.18 *8*	
		4178	10	2142.0	(3/2$^-$,5/2$^+$)	D+Q	+0.07 *6*	
		4669	2	1651.22	5/2$^+$			
		4983	3	1337.53	7/2$^+$			
		5141	6	1178.98	3/2$^-$	D+Q	0.00 *3*	
		5439	10	880.64	5/2$^+$	D+Q	+0.14 *5*	
		5464	10	855.65	1/2$^+$			δ(Q/D)=+0.01 *3* or −3.1 *5*.
		5475	8	845.18	5/2$^-$			
		6168	100	151.79	3/2$^+$	D+Q	+0.03 *3*	
6431.04	23/2$^+$	912.0 *1*	100 *3*	5519.00	19/2$^+$	E2		B(E2)(W.u.)=5.7 *6*
		3307.4 *4*	8.7 *3*	3123.73	19/2$^-$	[M2]		B(M2)(W.u.)=0.031 *4*
6685.1	1/2$^-$	4104	13	2580.8	(5/2)			
		4590	79	2094.8	3/2$^-$			
		4722	42	1962.89	(3/2,5/2)$^-$			
		5506	38	1178.98	3/2$^-$			
		5804	33	880.64	5/2$^+$			
		5829	25	855.65	1/2$^+$			
		6212	29	472.60	3/2$^-$			
		6533	100	151.79	3/2$^+$			
6696.2	5/2	3013	5	3683.2	(3/2,5/2,7/2)			
		3369[b]	5	3326.8	(3/2$^-$ to 9/2)			
		4313	9	2383.1	3/2$^{(+)}$			δ(Q/D)=−0.13 *10* or −4.2 *+10−15* for J^π(2383)=7/2 and +0.20 *10* for J^π(2383)=3/2.
		4733	5	1962.89	(3/2,5/2)$^-$	D+Q	−0.47 *8*	
		5044	11	1651.22	5/2$^+$	D+Q	−0.07 *7*	
		5359	11	1337.53	7/2$^+$			δ(Q/D)=−0.14 *6* or −23 +∞−12.
		5517	7	1178.98	3/2$^-$			
		5537	7	1158.76	3/2$^+$			
		5815	32	880.64	5/2$^+$	D+Q	+0.03 *3*	
		5851	7	845.18	5/2$^-$	D+Q	−0.27 *10*	
		6223	2	472.60	3/2$^-$	D+Q	+0.22 *5*	
		6544	100	151.79	3/2$^+$	D+Q	−0.14 *4*	
		6695	27	0.0	7/2$^-$	D+Q	+0.02 *4*	
6777.3	5/2	2322	64	4455.3	(5/2 to 9/2)			
		3790	45	2985.0	(3/2,5/2)			
		4196	55	2580.8	(5/2)			

$^{43}_{21}Sc_{22}$-23

Adopted Levels, Gammas (continued)

γ(^{43}Sc) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [#]	E_f	J_f^π	Mult.[@&]	δ[&]
6777.3	5/2	4394	36	2383.1	$3/2^{(+)}$		
		4635	82	2142.0	$(3/2^-,5/2^+)$		
		5125	91	1651.22	$5/2^+$		
		5369	18	1408.09	$7/2^-$		
		5440	27	1337.53	$7/2^+$		
		5598	100	1178.98	$3/2^-$		
		5896	91	880.64	$5/2^+$		
		5921	45	855.65	$1/2^+$		
		5932	82	845.18	$5/2^-$		
		6304	91	472.60	$3/2^-$		
		6625	82	151.79	$3/2^+$		
6814.5	$(15/2^-$ to $23/2^-)$	3691.0 *18*	100	3123.73	$19/2^-$		
6818.42	$(21/2^+)$	645.4 *1*	100 *5*	6172.98	$(19/2^+)$		
		1586.9 *3*	29 *3*	5231.33	$(17/2^+)$		
6918.6	7/2	3076	3	3843.0	(≤9/2)		
		3592	6	3326.8	$(3/2^-$ to 9/2)		
		3658	6	3260.1	$(7/2,9/2)^-$		
		4044	3	2874.7	$(5/2)^+$		
		4123	3	2795.4	$3/2^-,5/2^-$		
		5034	5	1882.8	$(5/2,9/2)^-$		
		5511	5	1408.09	$7/2^-$	D+Q	−0.04 *4*
		6037	3	880.64	$5/2^+$		
		6074	100	845.18	$5/2^-$	D+Q	0.00 *2*
		6917	11	0.0	$7/2^-$	D+Q	−0.29 *8*
7106.88	$(23/2^+)$	288.4 *1*	8.0 *4*	6818.42	$(21/2^+)$		
		675.9 *1*	100 *4*	6431.04	$23/2^+$	D	
		823.3 *1*	69 *3*	6283.49	$(21/2^+)$	D	
		933.0 *5*	12.6 *8*	6172.98	$(19/2^+)$		
7118.8	$(15/2,17/2,19/2^+)$	3362.2 *10*	100	3755.43	$15/2^+$		
7273.5	$(15/2,17/2,19/2^+)$	3516.9 *5*	100	3755.43	$15/2^+$		
7344.1	$3/2^-,5/2$	3484	13	3860.1	(≤7/2)		
		3537	39	3807.2	$7/2^-$		
		3661	10	3683.2	(3/2,5/2,7/2)		
		3698	10	3645.6	$(3/2,5/2,7/2^-)$		
		4184	19	3159.3	$(3/2^-,5/2,7/2^+)$		
		5229	6	2114.5			
		5692	19	1651.22	$5/2^+$		
		6007	6	1337.53	$7/2^+$		
		6165	6	1178.98	$3/2^-$		
		6185	6	1158.76	$3/2^+$		
		6463	100	880.64	$5/2^+$		
		7191	55	151.79	$3/2^+$		
		7343	32	0.0	$7/2^-$		

$^{43}_{21}Sc_{22}$-24

Adopted Levels, Gammas (continued)

γ(^{43}Sc) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [#]	E_f	J_f^π	Mult. [@&]	δ [&]	Comments
7359.16	$(25/2)^+$	252.3 *1*	2.84 *16*	7106.88	$(23/2^+)$	[M1]		B(M1)(W.u.)=0.109 *11*
		928.2 *1*	100 *3*	6431.04	$23/2^+$	M1(+E2)	−0.1 *1*	B(M1)(W.u.)=0.078 *6*
		1075.6 *3*	0.85 *10*	6283.49	$(21/2^+)$	[E2]		B(E2)(W.u.)=1.00 *15*
7394.18	$3/2^-,5/2^+$	2964	20	4430.2	$(1/2^+,3/2,5/2)$			
		3387	28	4007.3	$(3/2,5/2)^+$			
		3637	8	3756.5	$(3/2^-,5/2,7/2^+)$			
		3931	12	3463.3	$5/2^-$			
		3942	12	3452.1	$5/2^+$			
		4519	8	2874.7	$(5/2)^+$			
		4534	8	2860.8	$(1/2,3/2,5/2)^+$			
		4598	4	2795.4	$3/2^-,5/2^-$			
		4813	4	2580.8	$(5/2)$			
		5011	4	2383.1	$3/2^{(+)}$			
		5252	4	2142.0	$(3/2^-,5/2^+)$			
		5279	28	2114.5				
		5583	8	1811.1	$3/2^-$			
		5742	8	1651.22	$5/2^+$			
		5986	4	1408.09	$7/2^-$			
		6057	4	1337.53	$7/2^+$			
		6215	16	1178.98	$3/2^-$			
		6235	40	1158.76	$3/2^+$			
		6513	32	880.64	$5/2^+$			
		6538	20	855.65	$1/2^+$			
		6548	16	845.18	$5/2^-$			
		6921	8	472.60	$3/2^-$			
		7241	100	151.79	$3/2^+$			
		7393	4	0.0	$7/2^-$			
7512.3	$(7/2^+)$	3141	12	4371.5	$5/2^-,7/2^-$			
		3474	3	4038.8	$7/2^-$			
		3705	10	3807.2	$7/2^-$			
		4671	3	2840.7	$(5/2,7/2)^+$			
		4701	3	2811.1	(5/2,7/2,9/2)			
		4960	3	2553.54	$11/2^+$			
		5580	100	1932.55	$9/2^+$			
		5627	3	1882.8	$(5/2,9/2)^-$			
		6353	5	1158.76	$3/2^+$			
		6666	3	845.18	$5/2^-$			
		7511	22	0.0	$7/2^-$			
7581.4	$(3/2^-,5/2,7/2^+)$	3151	3	4430.2	$(1/2^+,3/2,5/2)$			
		3898	18	3683.2	(3/2,5/2,7/2)			
		4078	5	3503.2	$7/2^-$			
		4129	8	3452.1	$5/2^+$			
		4207	5	3375.3	$(7/2,9/2)^-$			

$^{43}_{21}Sc_{22}$-25

Adopted Levels, Gammas (continued)

γ(^{43}Sc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[#]	E_f	J_f^π	Mult.[@&]	Comments
7581.4	(3/2$^-$,5/2,7/2$^+$)	4721	3	2860.8	(1/2,3/2,5/2)$^+$		
		5439	13	2142.0	(3/2$^-$,5/2$^+$)		
		6700	100	880.64	5/2$^+$		
		7428	93	151.79	3/2$^+$		
		7580	5	0.0	7/2$^-$		
8010.1	(19/2,21/2,23/2$^+$)	2491.0 *3*	100	5519.00	19/2$^+$		
8434.37	23/2$^{(-)}$	2369.6 *4*	9.9 *12*	6067.23	19/2$^-$		E_γ: poor fit in the level scheme. Level-energy difference=2367.1.
		5310.5 *1*	100 *7*	3123.73	19/2$^-$	Q	
8555.56	23/2$^{(-)}$	2488.2 *1*	100	6067.23	19/2$^-$	Q	
8703.06	(25/2$^+$)	1595.2 *3*	11.3 *6*	7106.88	(23/2$^+$)		
		2271.8 *2*	100 *4*	6431.04	23/2$^+$	D	
8831.84	(27/2$^+$)	1472.5 *1*	100 *3*	7359.16	(25/2)$^+$	(M1)	B(M1)(W.u.)=0.089 *19*
		1724.8 *2*	5.0 *9*	7106.88	(23/2$^+$)	[E2]	B(E2)(W.u.)=2.7 *8*
9218.8	(21/2$^-$)	3151.4 *3*	100	6067.23	19/2$^-$	(D)	
9578.86	(27/2$^+$)	2219.2 *2*	70 *17*	7359.16	(25/2)$^+$		
		3147.7 *2*	100 *4*	6431.04	23/2$^+$		
9995.10	(25/2$^-$)	1439.5 *1*	100 *4*	8555.56	23/2$^{(-)}$	D	
		2887.4 *6*	39 *9*	7106.88	(23/2$^+$)		
10084.47	27/2$^{(-)}$	1381.2 *1*	35 *4*	8703.06	(25/2$^+$)	D	
		1529.0 *1*	49 *6*	8555.56	23/2$^{(-)}$	Q	
		1650.3 *1*	100 *4*	8434.37	23/2$^{(-)}$	Q	
		2725.6 *2*	21 *5*	7359.16	(25/2)$^+$	D	
10178.6	(23/2,25/2,27/2$^+$)	3071.6 *5*	100	7106.88	(23/2$^+$)		
10436.84	(25/2$^+$)	3329.9 *2*	100	7106.88	(23/2$^+$)		
10613.21	(27/2$^-$)	2177.8 *6*	4.4 *6*	8434.37	23/2$^{(-)}$	Q	
		3253.9 *1*	100 *4*	7359.16	(25/2)$^+$	D	
10856.18	(27/2$^-$)	771.6 *4*	10.3 *12*	10084.47	27/2$^{(-)}$		
		860.4 *2*	12.2 *20*	9995.10	(25/2$^-$)	D	
		3497.0 *1*	100 *4*	7359.16	(25/2)$^+$	D	
11252.0	(25/2$^+$)	3892.6 *3*	100	7359.16	(25/2)$^+$		
11355.60	27/2$^{(-)}$	2799.5 *2*	100 *4*	8555.56	23/2$^{(-)}$	Q	
		2920.2 *10*	12.7 *22*	8434.37	23/2$^{(-)}$		
		3997.1 *3*	49 *4*	7359.16	(25/2)$^+$		
11661.0		3105.3 *4*	100	8555.56	23/2$^{(-)}$		
11807.36	(29/2$^-$)	951.0 *3*	19.7 *10*	10856.18	(27/2$^-$)	D	
		2228.0 *2*	28.5 *19*	9578.86	(27/2$^+$)		
		2975.2 *1*	100 *3*	8831.84	(27/2$^+$)	D	
11920.54	(25/2$^+$)	4560.5 *3*	66 *6*	7359.16	(25/2)$^+$	D	
		5489.0 *3*	100 *4*	6431.04	23/2$^+$	D	
12053.33	(29/2$^-$)	1968.8 *1*	100 *4*	10084.47	27/2$^{(-)}$	D	
		2058.7 *2*	25 *6*	9995.10	(25/2$^-$)		
12073.15	(29/2$^-$)	1460.1 *1*	100	10613.21	(27/2$^-$)	D	

$^{43}_{21}Sc_{22}$-26

Adopted Levels, Gammas (continued)

γ(^{43}Sc) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [#]	E_f	J_f^π	Mult. [@&]
12614.84	(31/2$^-$)	1757.9 *7*	14.1 *8*	10856.18	(27/2$^-$)	
		2530.6 *1*	100 *3*	10084.47	27/2$^{(-)}$	Q
12703.9		4148.1 *8*	100	8555.56	23/2$^{(-)}$	
12804.39	(27/2,29/2)	2190.8 *3*	56 *12*	10613.21	(27/2$^-$)	
		3972.5 *2*	100 *4*	8831.84	(27/2$^+$)	
13044.65	(29/2$^+$)	2607.8 *2*	61 *3*	10436.84	(25/2$^+$)	
		4213.0 *3*	100 *4*	8831.84	(27/2$^+$)	D
		4341.7 *3*	81 *8*	8703.06	(25/2$^+$)	
		5684.9 *4*	83 *4*	7359.16	(25/2)$^+$	
13116.57	(31/2$^-$)	1043.6 *1*	32.3 *16*	12073.15	(29/2$^-$)	D
		2503.1 *1*	100 *4*	10613.21	(27/2$^-$)	Q
13122.7		3038.1 *5*	100	10084.47	27/2$^{(-)}$	
13584.1	(29/2$^+$)	4752.0 *3*	100	8831.84	(27/2$^+$)	D
14405.80	(33/2$^-$)	1289.2 *3*	7.9 *7*	13116.57	(31/2$^-$)	
		1791.2 *1*	100 *4*	12614.84	(31/2$^-$)	D
		2353.2 *3*	26.9 *17*	12053.33	(29/2$^-$)	Q
		2598.0 *1*	48.2 *18*	11807.36	(29/2$^-$)	(Q)
14451.1	(29/2$^+$)	2530.4 *1*	100 *4*	11920.54	(25/2$^+$)	
		2644.5 *5*	38 *9*	11807.36	(29/2$^-$)	
		5620.1 *5*	58 *13*	8831.84	(27/2$^+$)	
14561.2	(31/2$^-$)	2508.0 *3*	61 *19*	12053.33	(29/2$^-$)	
		3205.3 *3*	100 *4*	11355.60	27/2$^{(-)}$	Q
14914.3	(31/2)	6081.0 *3*	100	8831.84	(27/2$^+$)	Q
15910.7	(33/2$^+$)	2866.3 *2*	100 *5*	13044.65	(29/2$^+$)	
		3296.0 *4*	35.2 *20*	12614.84	(31/2$^-$)	
16703.6		3586.9 *5*	100	13116.57	(31/2$^-$)	
16708.4		3124.2 *3*	100	13584.1	(29/2$^+$)	
16711.2		3906.6 *5*	100	12804.39	(27/2,29/2)	
17767.4	(35/2)	2852.9 *1*	100	14914.3	(31/2)	(Q)
17921.1	(31/2$^+$)	3469.8 *2*	100	14451.1	(29/2$^+$)	(D)
18196.8	(35/2$^-$)	3635.4 *3*	100	14561.2	(31/2$^-$)	Q
18765.3	(37/2)	997.9 *1*	100	17767.4	(35/2)	D
19208.6	(37/2$^+$)	1440.7 *2*	59 *10*	17767.4	(35/2)	
		3298.8 *3*	100 *5*	15910.7	(33/2$^+$)	

[†] Values with ΔE are primarily from ^{43}Ti ε decay, (^{16}O,pnγ), (^{19}F,p2nγ), (^{20}Ne,αpγ) and (^{24}Mg,αpγ). Weighted averages are taken when available. Others are from level-energy differences.

[‡] γ seen in (p,γ) only.

[#] Weighted average of all available γ-ray data, unless otherwise noted. In some cases unweighted averages are taken when values from two or more reactions are very different, and there does not seem a preference for any one value.

$^{43}_{21}Sc_{22}$-27

Adopted Levels, Gammas (continued)

$\gamma(^{43}Sc)$ (continued)

@ From $\gamma(\theta)$, γ(lin pol) or $\gamma\gamma(\theta)$ data in (p,γ), (α,pγ), (^{16}O,pnγ), (^{19}F,p2nγ), (^{20}Ne,αpγ) and (^{24}Mg,αpγ).

& Primarily from (α,pγ), (p,γ), (^{16}O,pnγ), (^{19}F,p2nγ). For δ, weighted average is taken when data from different reactions are available. If $T_{1/2}$ is unknown and parity is determined not by polarization measurements, evaluators use D and Q, instead of M1 and E2, or, E1 and M2.

a Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

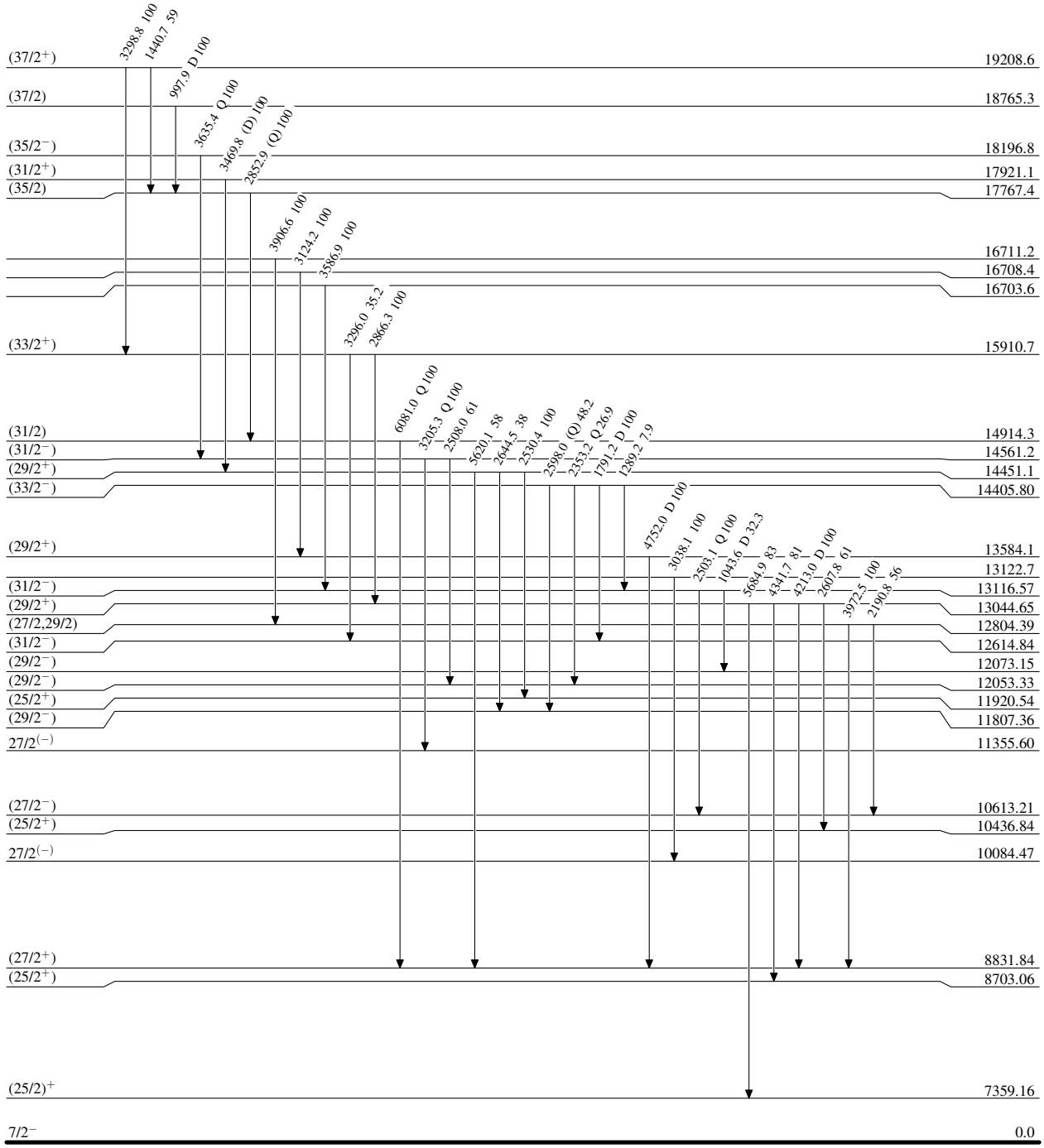
b Placement of transition in the level scheme is uncertain.

$^{43}_{21}Sc_{22}$-28

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

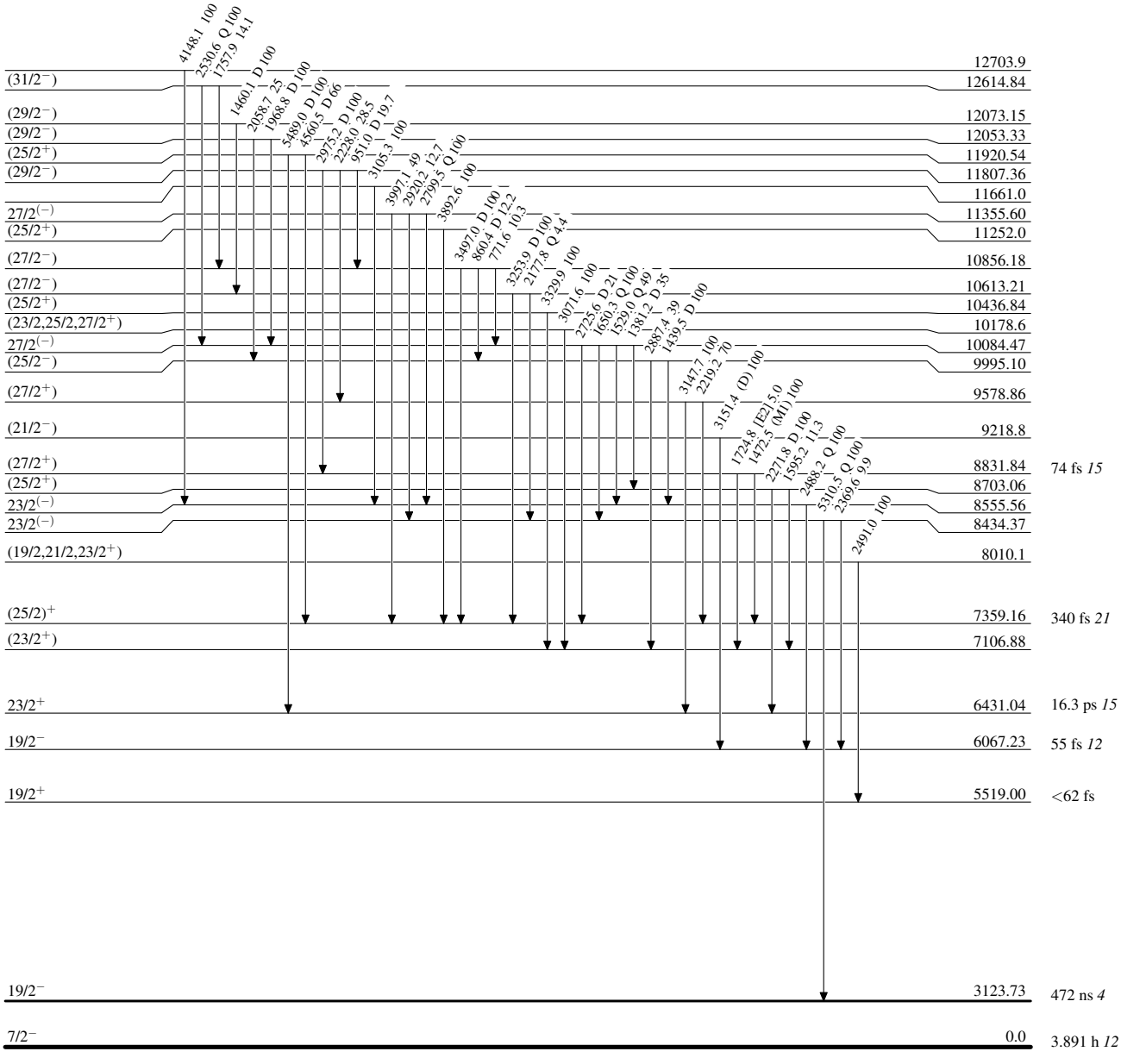


$^{43}_{21}Sc_{22}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

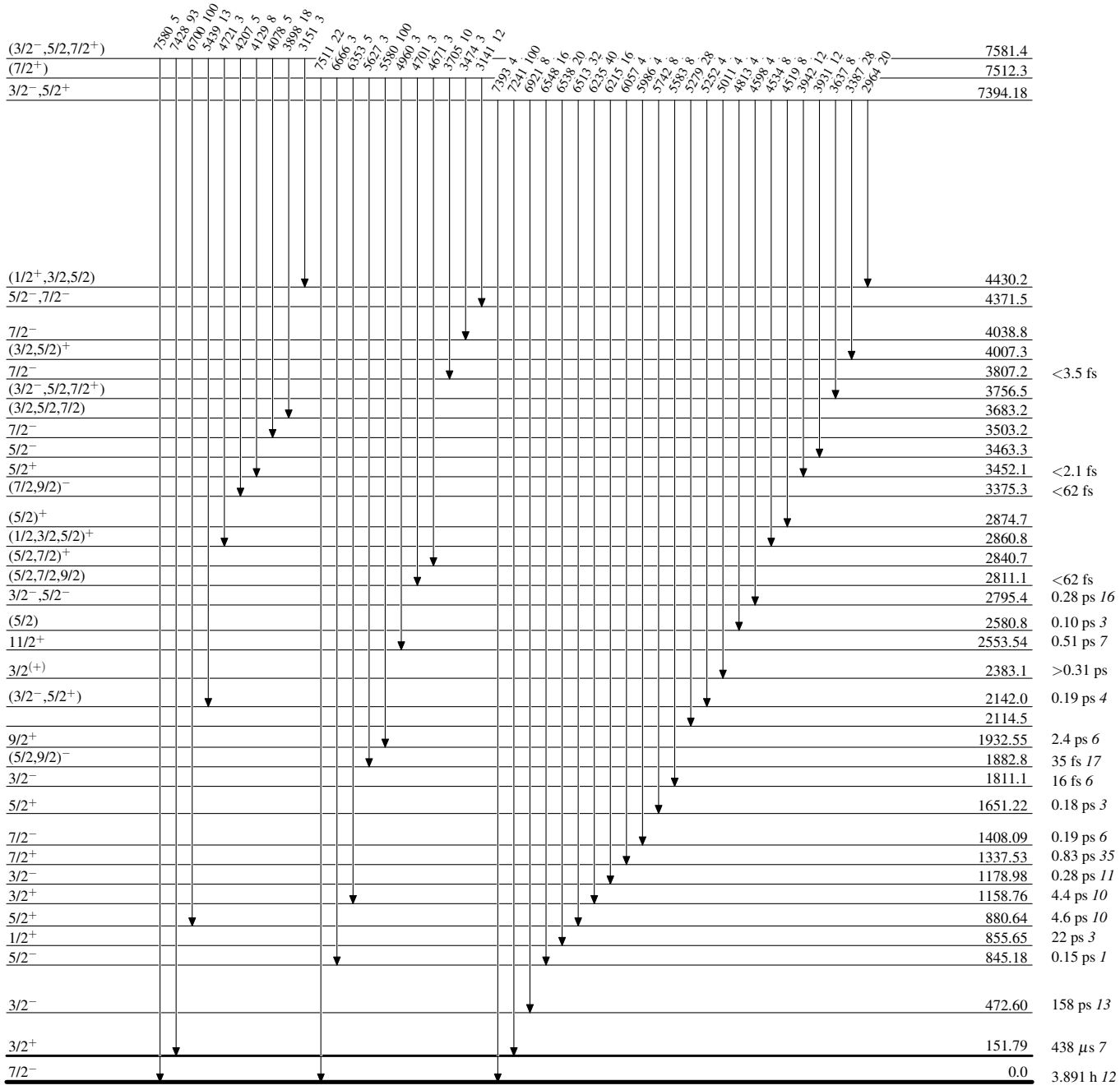


$^{43}_{21}Sc_{22}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

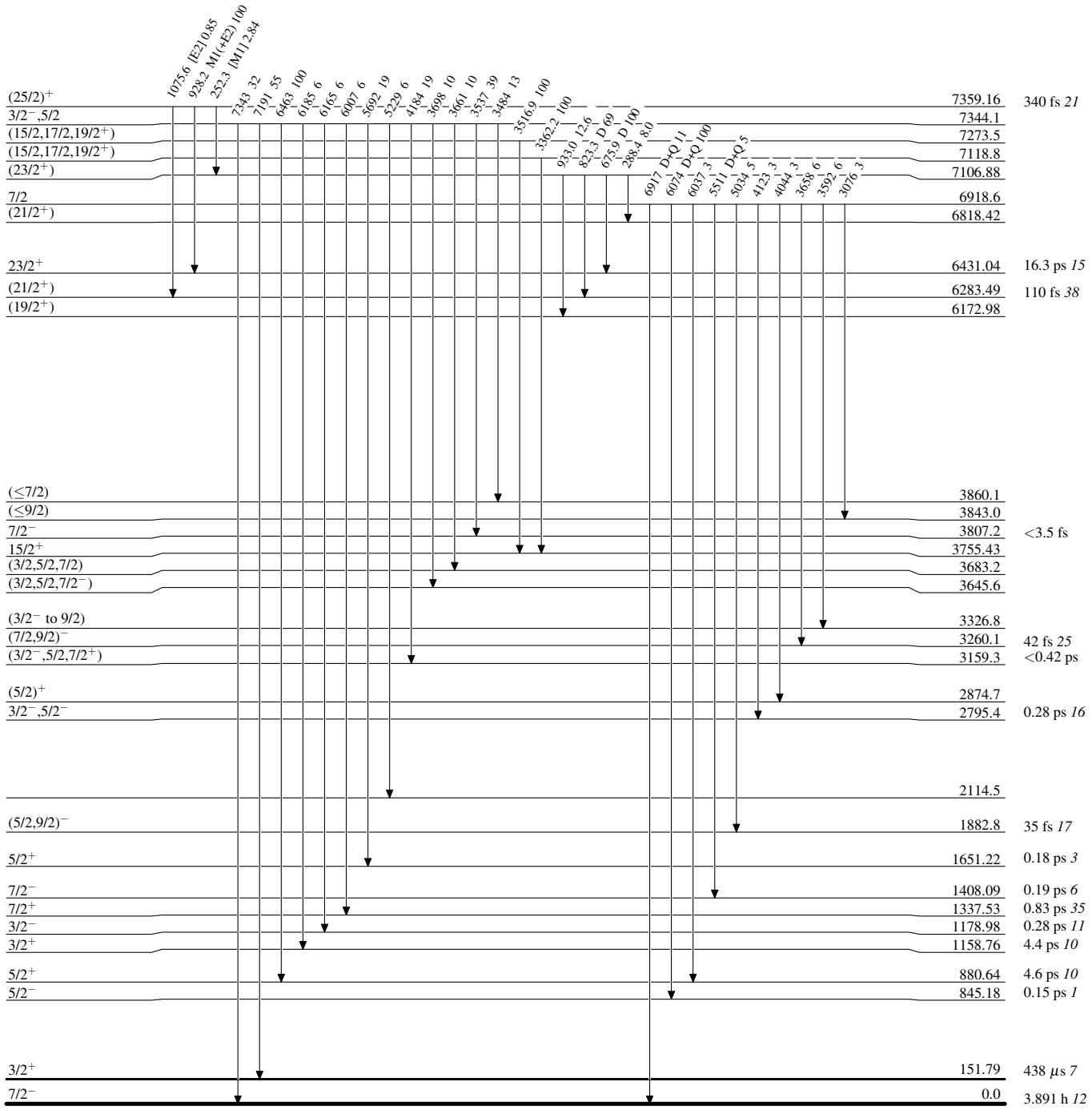


$^{43}_{21}Sc_{22}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

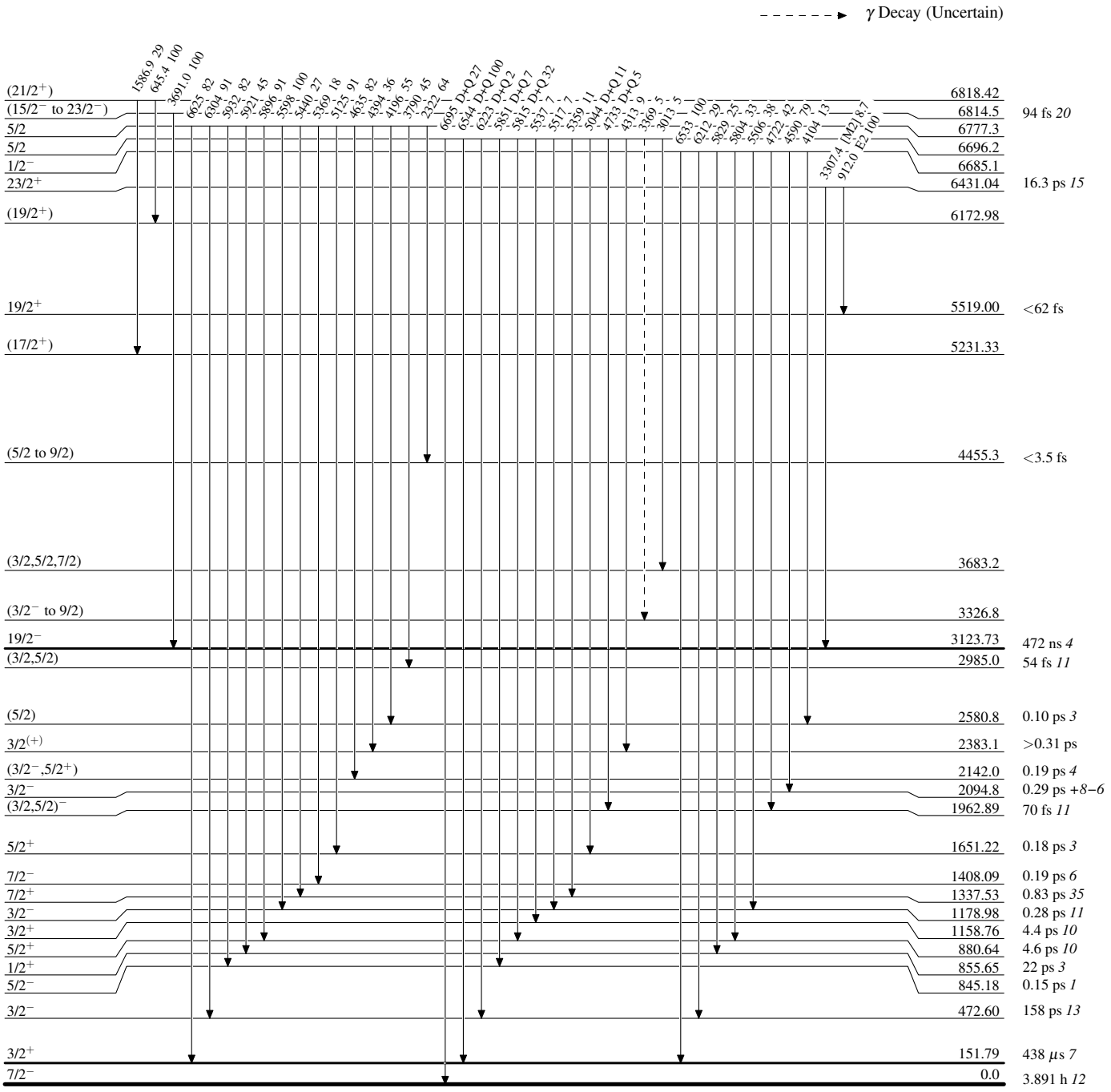


$^{43}_{21}Sc_{22}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



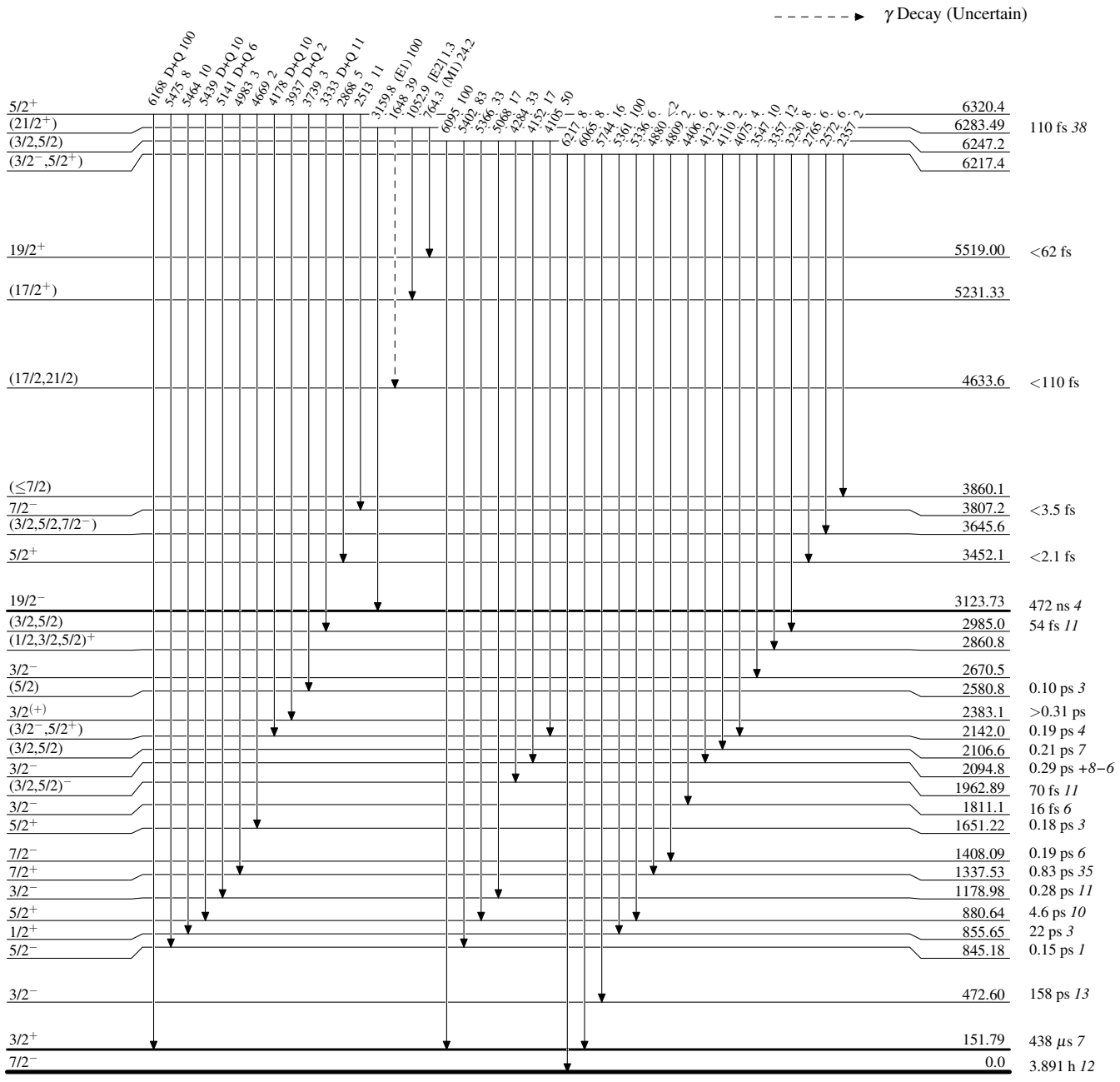
$^{43}_{21}Sc_{22}$

Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

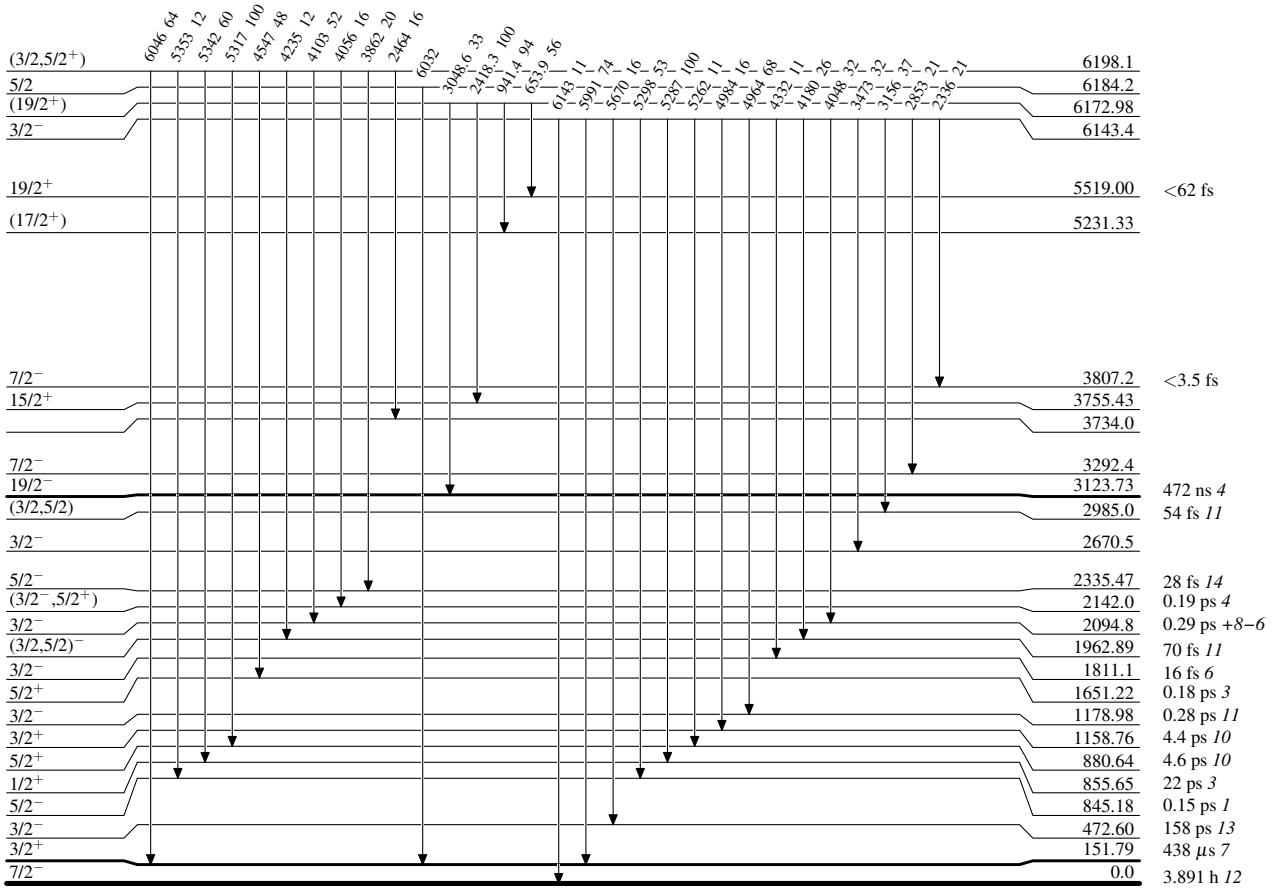


$^{43}_{21}Sc_{22}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{43}_{21}Sc_{22}$

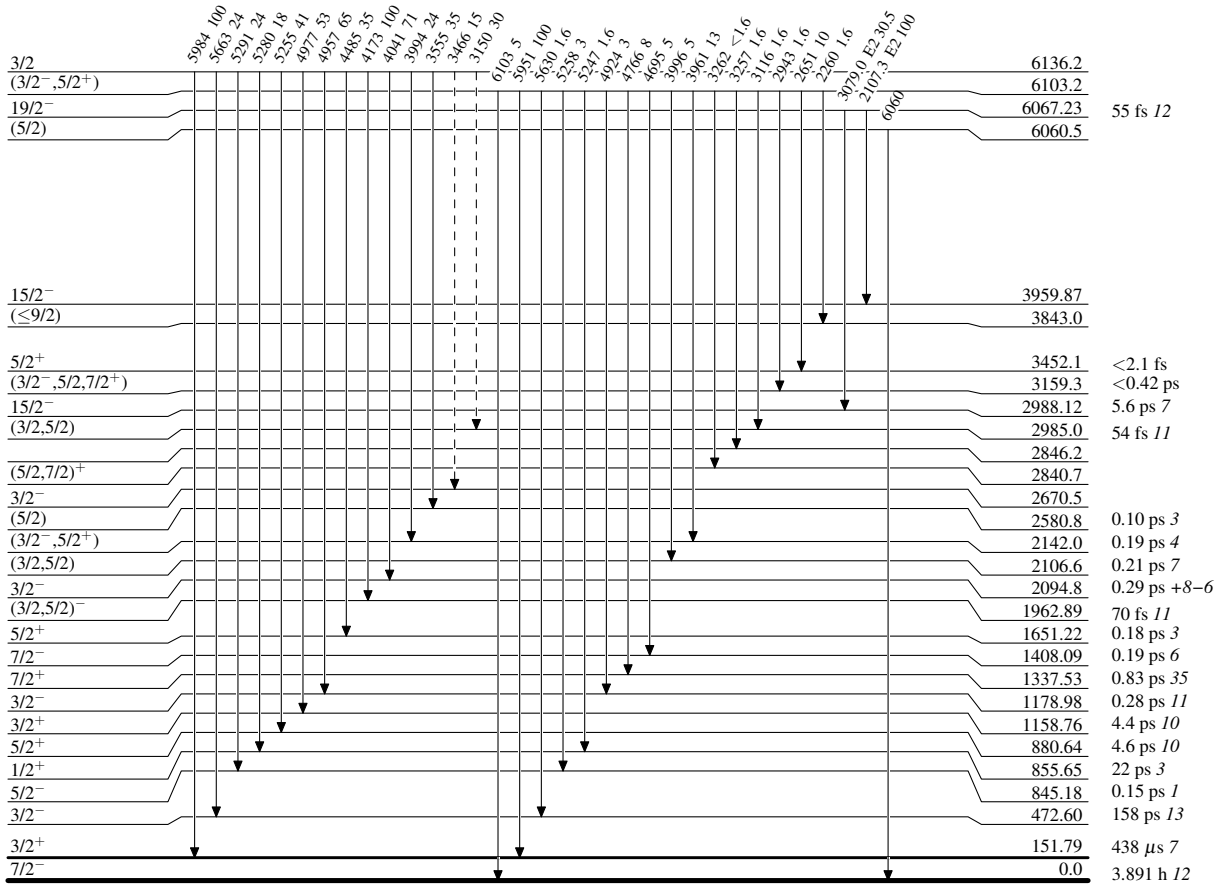
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)



$^{43}_{21}Sc_{22}$

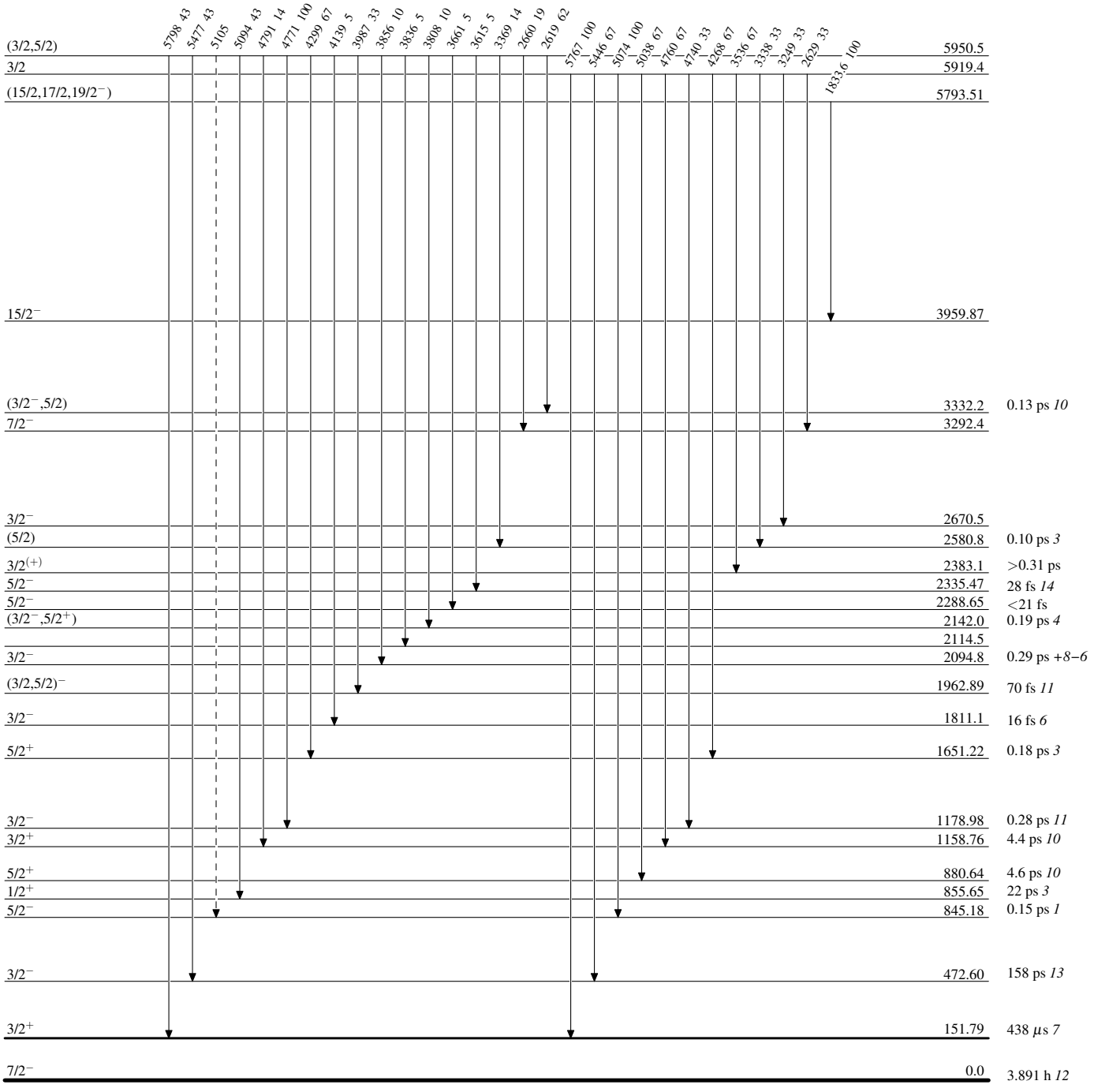
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)

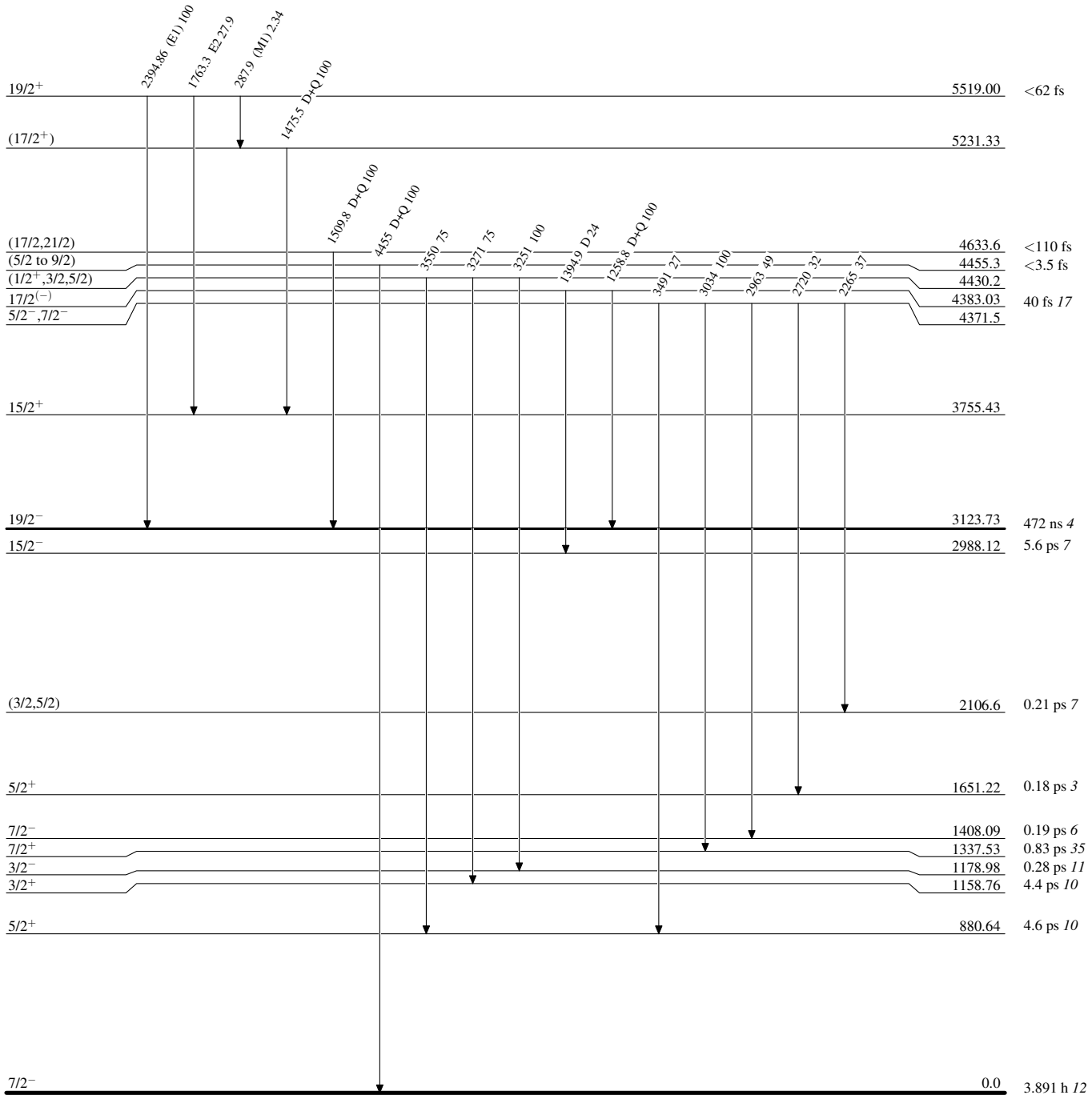


$^{43}_{21}Sc_{22}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

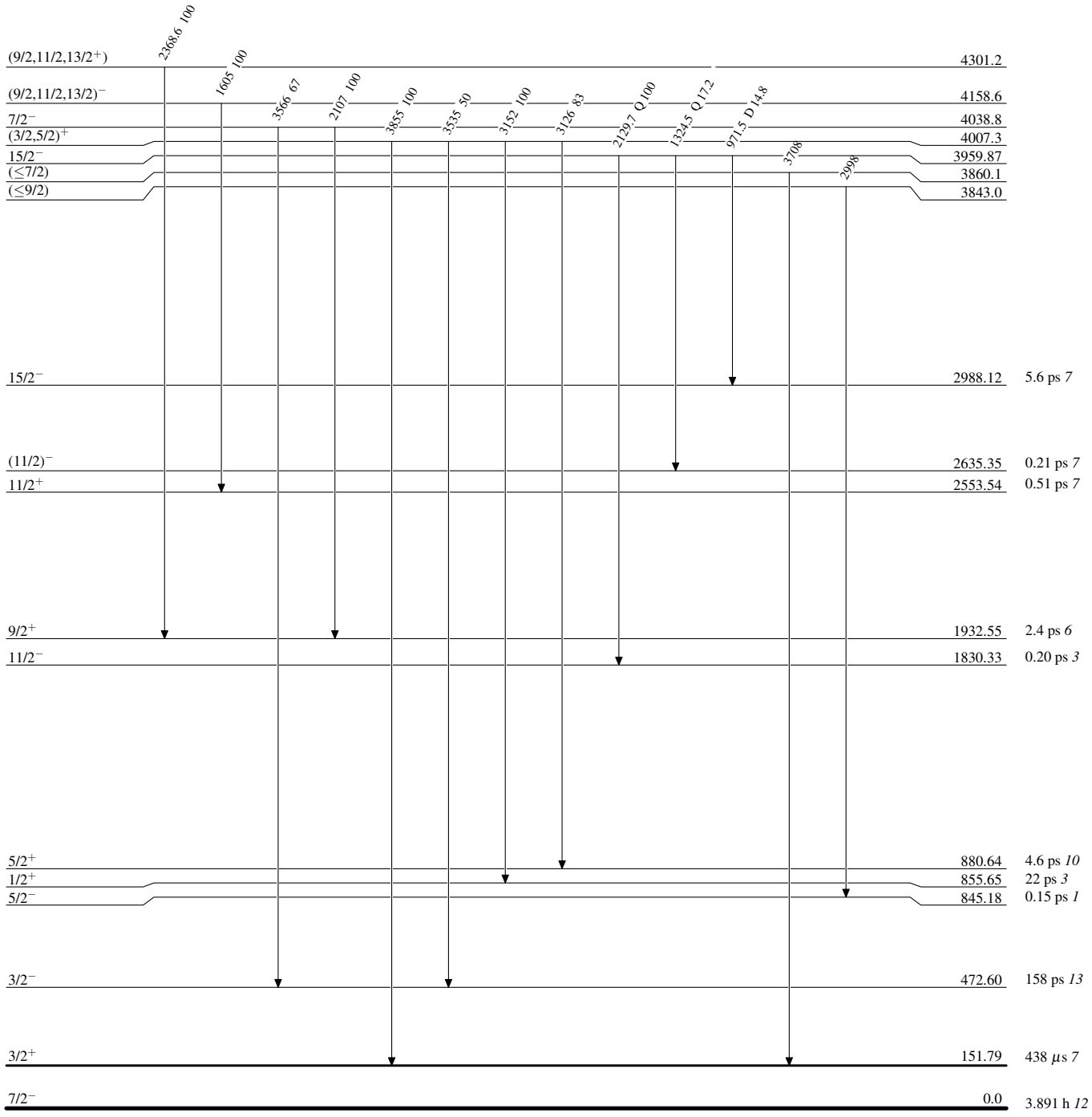


$^{43}_{21}Sc_{22}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

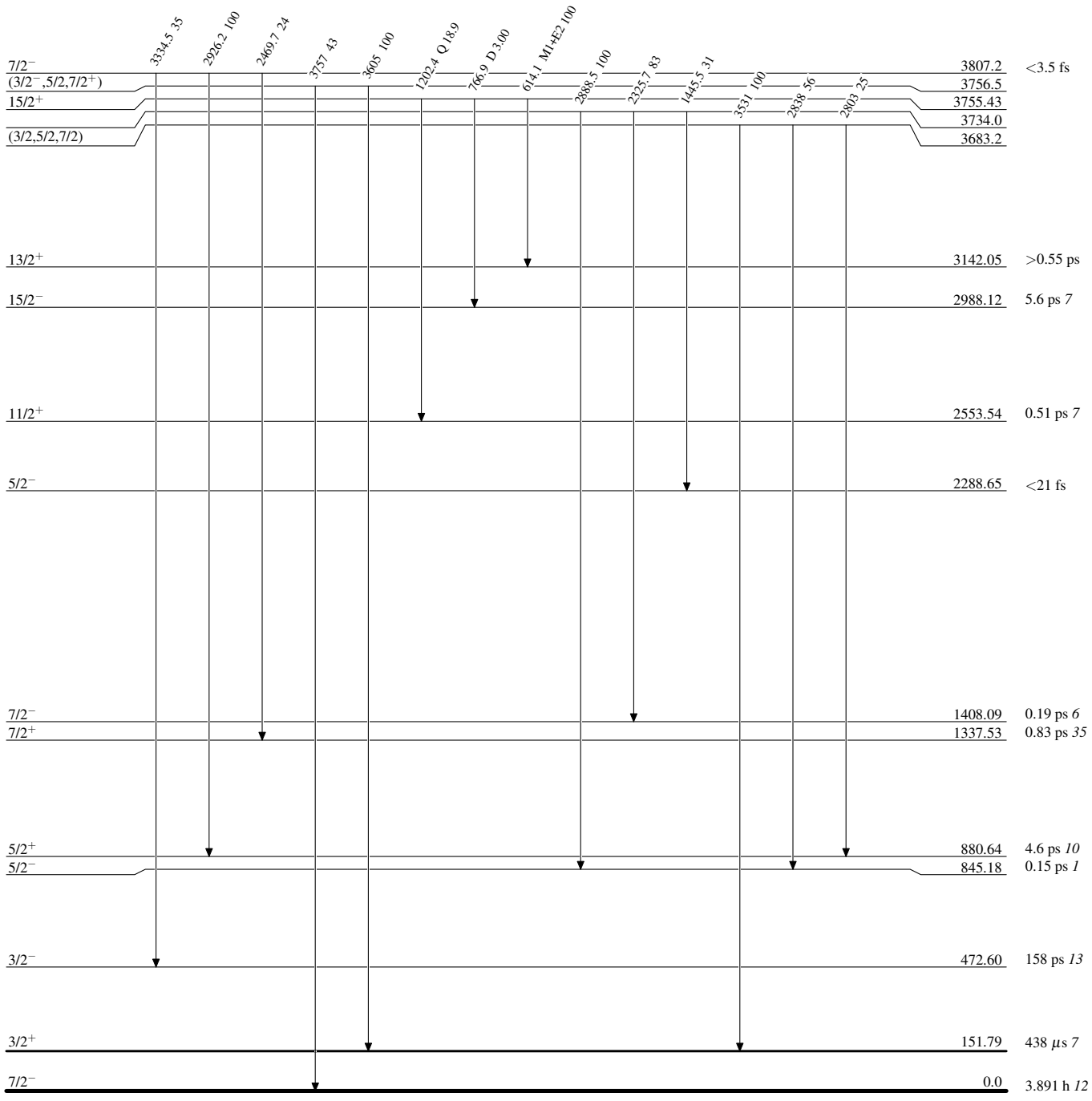


$^{43}_{21}Sc_{22}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{43}_{21}Sc_{22}$

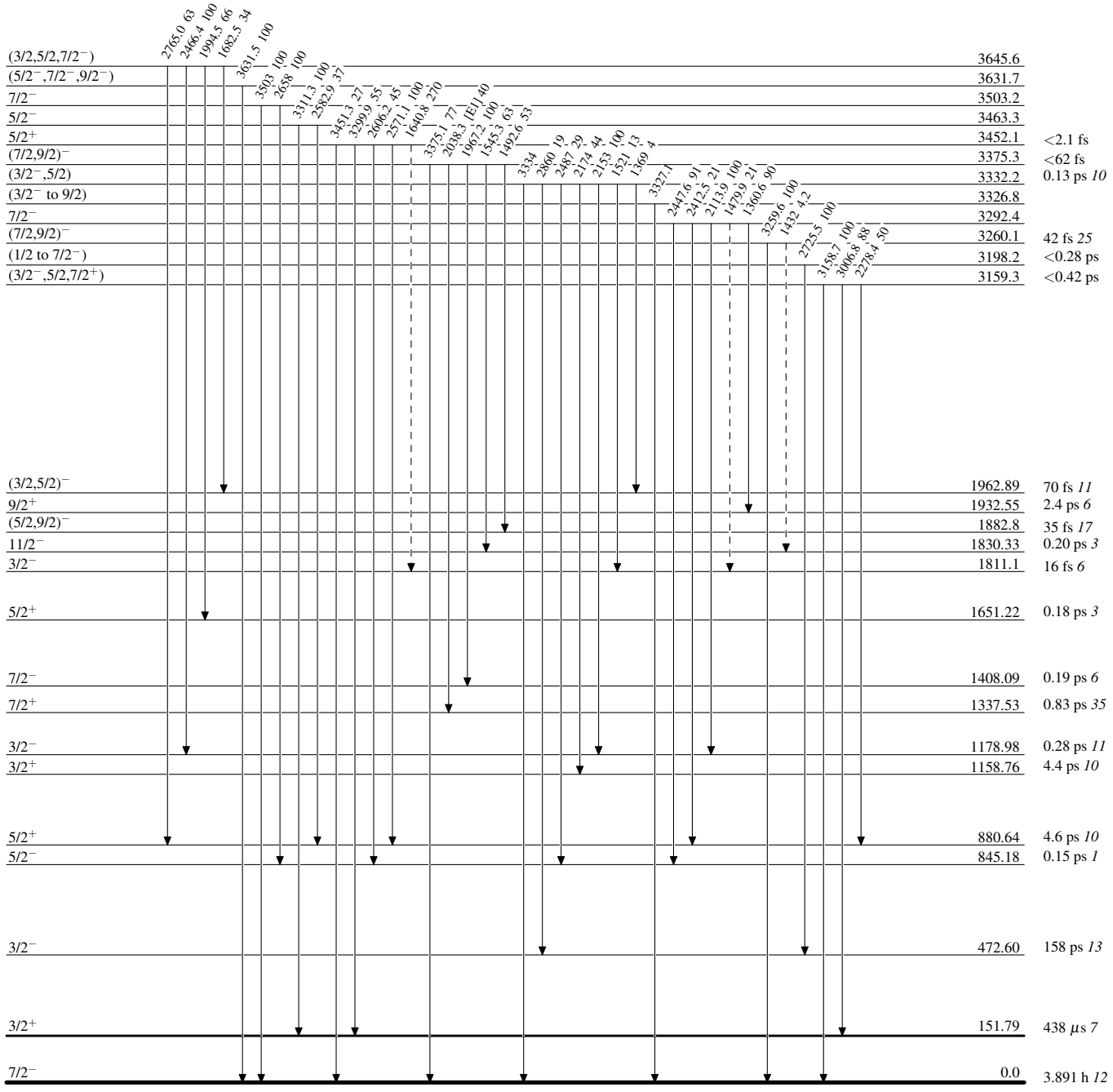
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{43}_{21}Sc_{22}$

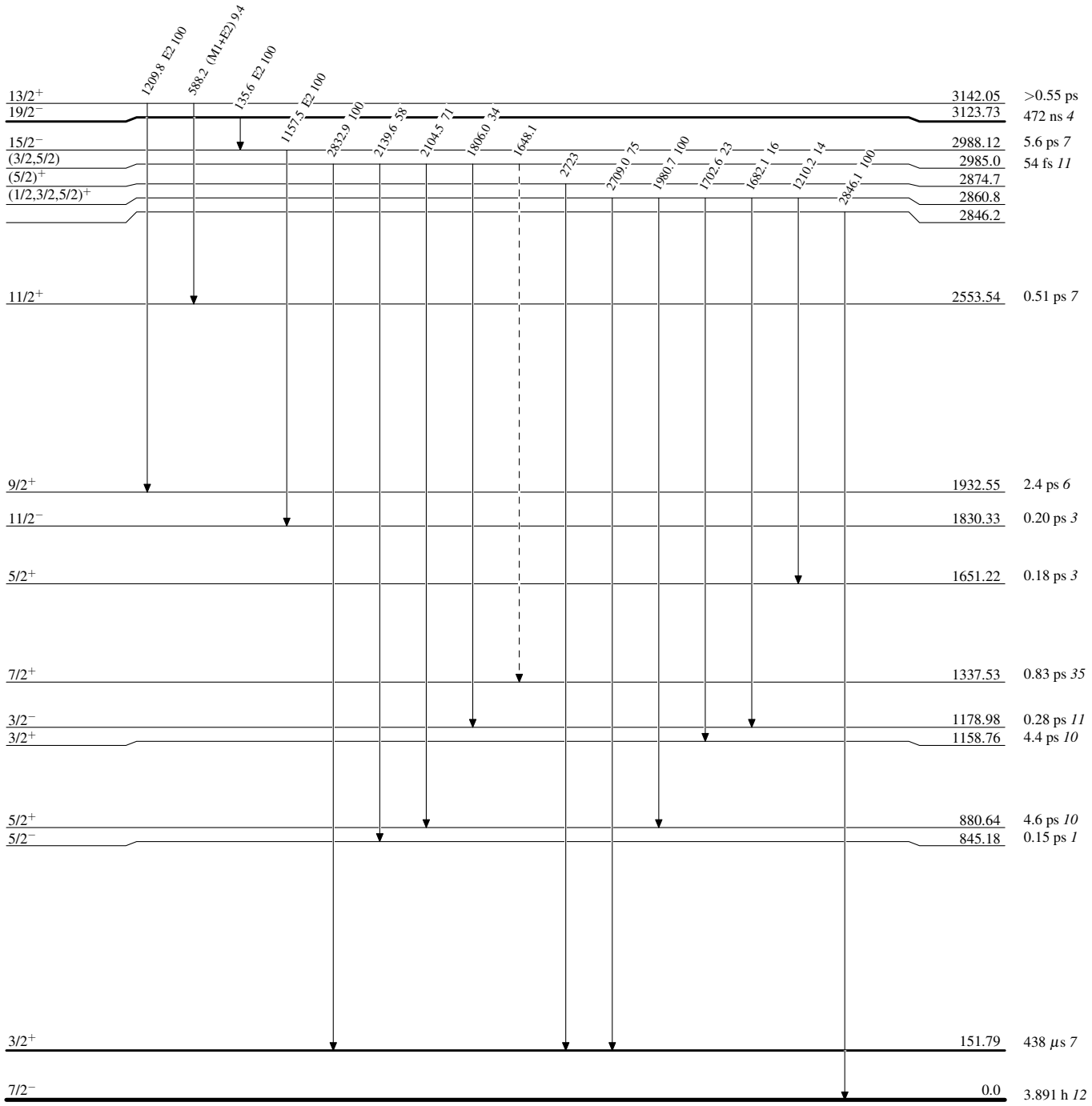
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{43}_{21}Sc_{22}$

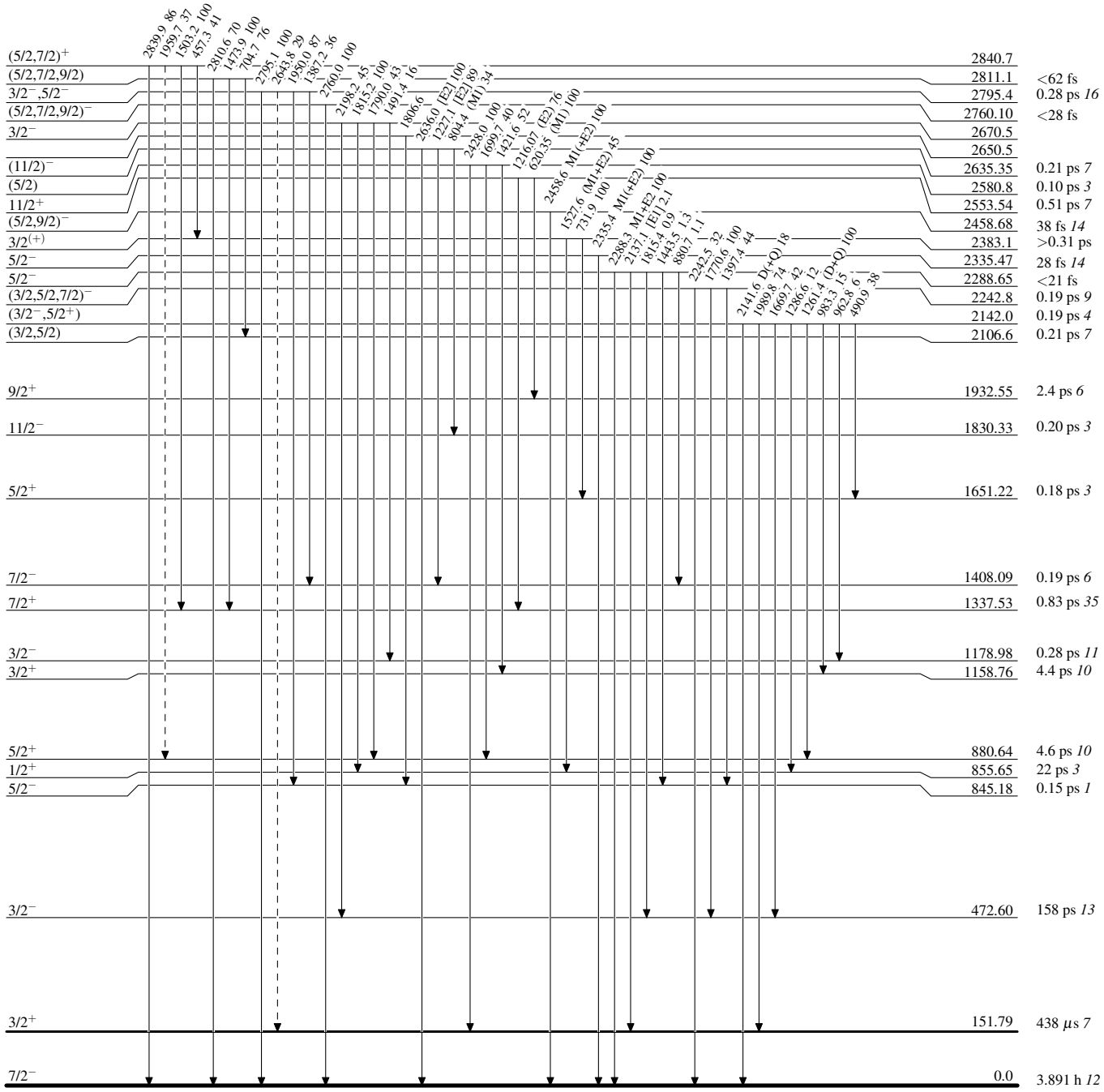
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)



$^{43}_{21}Sc_{22}$

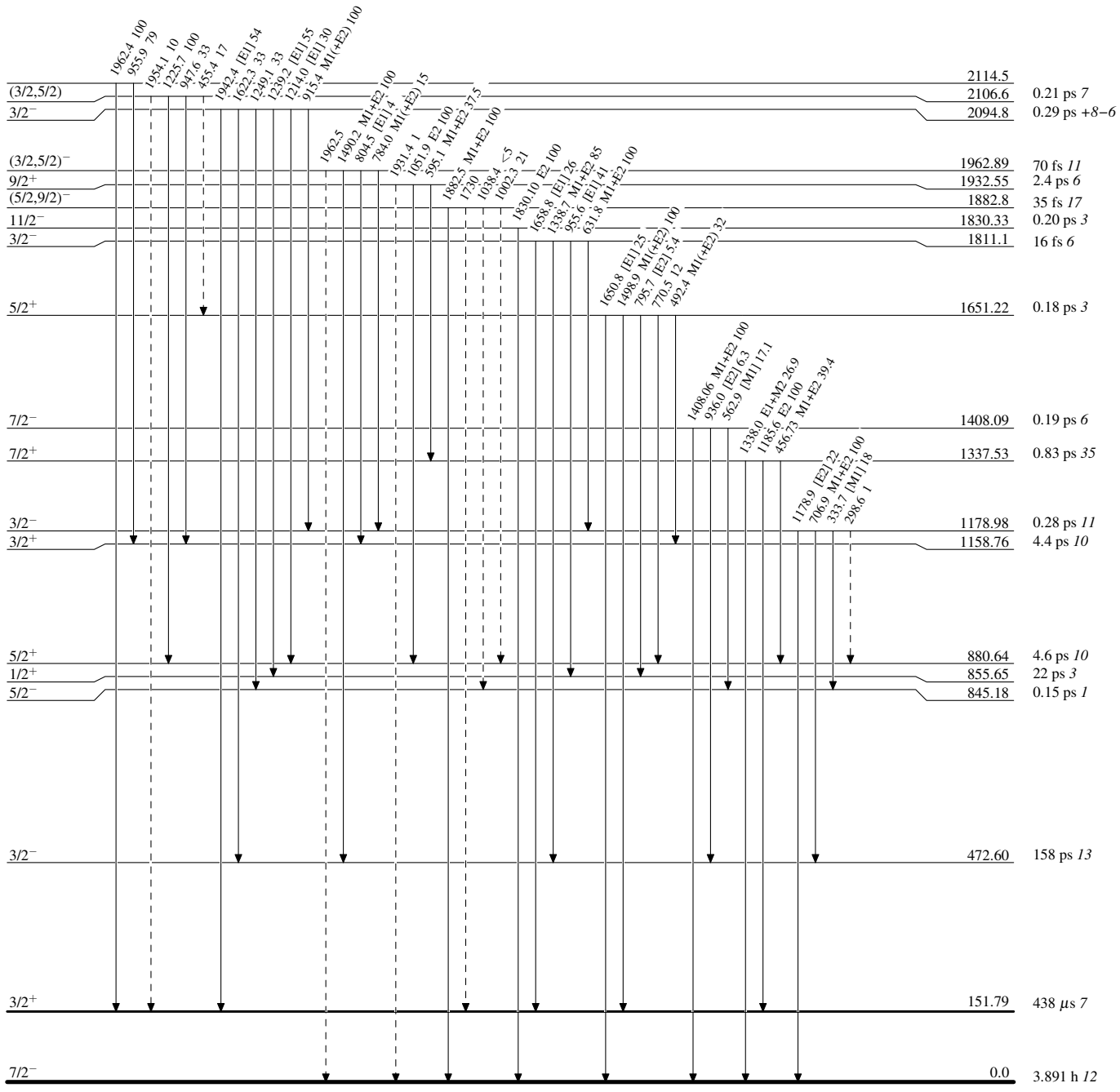
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

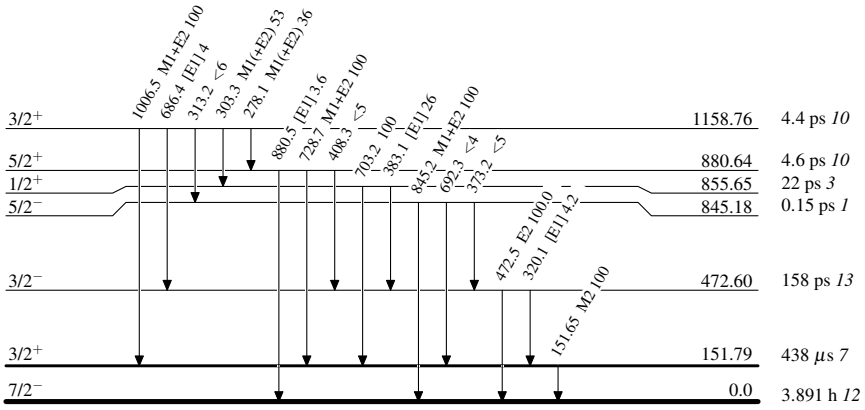


$^{43}_{21}Sc_{22}$

Adopted Levels, Gammas

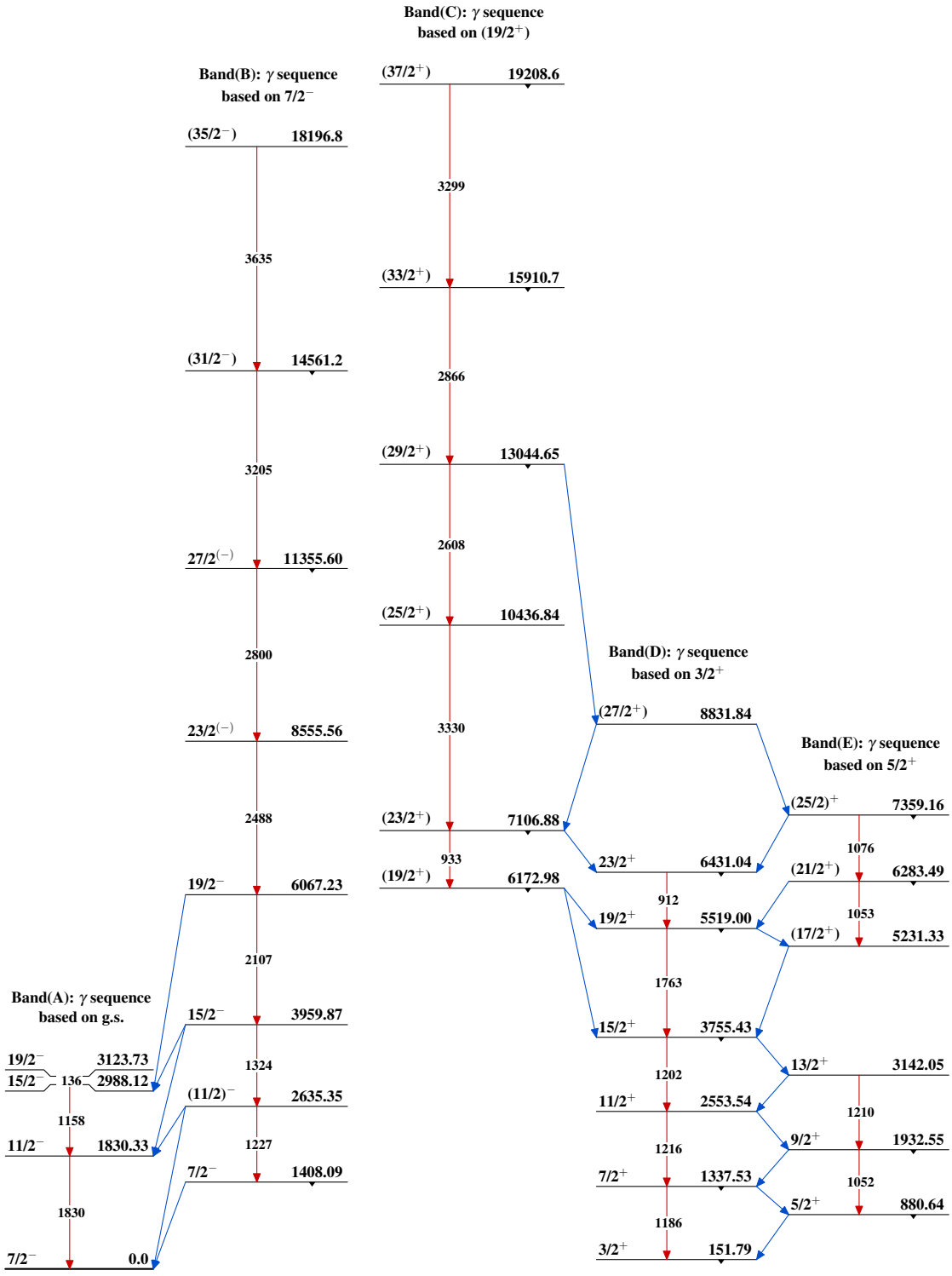
Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{43}_{21}Sc_{22}$

Adopted Levels, Gammas



$^{43}_{21}Sc_{22}$