Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja, E. A. Mccutchan	NDS 133,1 (2016)	30-Sep-2015

Q(β^-)=−1.294×10^4 *3*; S(n)=16190 *3*; S(p)=1085.00 *8*; Q(α)=−6267.13 *13* 2012Wa38
S(2n)=30612 *24*; S(2p)=9413.16 *8* (2012Wa38).

^{41}Sc Levels

With S(p)=1085 keV, all excited states are proton unbound and decay predominantly by proton decay to ^{40}Ca.

Cross Reference (XREF) Flags

A	^{41}Ti ε decay (81.9 ms)	E	^{40}Ca(^{3}He,d),(pol ^{3}He,d)	I	^{40}Ca(^{13}C,^{12}B)
B	^{40}Ca(p,γ)	F	^{40}Ca(α,t)	J	^{40}Ca(^{16}O,^{15}N)
C	^{40}Ca(p,p),(p,p′γ):res	G	^{40}Ca(^{7}Li,^{6}He)	K	^{40}Ca(^{28}Si,^{27}Al)
D	^{40}Ca(d,n)	H	^{40}Ca(^{12}C,^{11}B)	L	^{43}Cr ε2p decay (21.2 ms)

E(level)†	Jπ‡	$T_{1/2}$	XREF	Comments
0	7/2$^-$	596.3 ms *17*	B DEFGHIJKL	%ε+%β^+=100 Q=−0.156 *3* (2002Mi37); μ=+5.4305 *18* (1990Mi16) μ: β-NMR method. See also 1990Mi17, 1990Mi18. Other: 5.425 *4* (2013Is07, β-NMR). Q: β-NMR method. See also 2001Mi40. Earlier results of same group 0.166 *8* (1993Mi09) and 0.120 *6* (1990Mi19). $T_{1/2}$: from 1973Al11. Others: 591 ms *5* (1973Ta04), 596 ms *6* (1965Yo02), 550 ms *30* (1962Cr04), 870 ms *50* (1960Wa04), 870 ms *30* (1941El03). Also: 1960Ja12, 1952Ma55. Jπ: L(d,n)=L(^{3}He,d)=L(α,t)=3 and (pol ^{3}He,d); log *ft*=3.45 to 7/2$^-$ mirror nuclide.
1716.48 *8*	3/2$^-$		B DEFG I	%p>98; %IT<2 Jπ: L(d,n)=L(^{3}He,d)=L(α,t)=1; γ to 7/2$^-$. Radiative $T_{1/2}$=0.36 ps 11 from Γ_γ=0.0013 eV *4* in (p,γ). Other: 0.30 ps from Γ_γ=0.02 eVb, also in (p,γ).
2096.0@ *5*	3/2$^+$		AB DEF	%p>99; %IT<1 XREF: F(2077). Jπ: J from $\gamma(\theta)$ in (p,γ), π from L(d,n)=L(^{3}He,d)=L(α,t)=2.
2414.9 *5*	3/2$^-$		B DEF	%p>50; %IT<50 Jπ: L(d,n)=L(^{3}He,d)=1, 1830γ from 5/2$^+$.
2588.30 *7*	5/2$^-$		B D	%p>90; %IT<10 Jπ: 5/2 or 9/2 from $\gamma(\theta)$ in (p,γ), 872γ to 3/2$^-$ rules out J=9/2. D+Q for 2588γ to 7/2$^-$ with large value of δ favors no change in parity.
2666.84 *7*	5/2$^+$		AB E	%p>98; %IT<2 XREF: E(2686). Jπ: log *ft*=5.0 from 3/2$^+$ parent, D(+Q) 2667γ to 7/2$^-$.
2719.38 *9*	1/2$^+$		AB D	Jπ: L(d,n)=0.
2882.47 *8*	7/2$^+$		B EF I	%p=59 *2*; %IT=41 *2* XREF: F(2895). Jπ: L(^{3}He,d)=4; 786γ to 3/2$^+$.
2972.3 *2*	7/2		B E	Jπ: $\gamma(\theta)$ in (p,γ); mirror level to 7/2$^-$ in ^{41}Ca suggests π=−.
3014 *4*	(3/2$^-$,5/2,7/2$^+$)		B	%p>99; %IT<1 Jπ: 917γ to 3/2$^+$ and 3013γ to 7/2$^-$.
3185.4 *2*	(5/2$^-$)		B EF I	%p>92; %IT<8

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Adopted Levels, Gammas (continued)

^{41}Sc Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
				XREF: I(3150). Jπ: L(^{3}He,d)=3, γ(θ) in (p,γ) gives J=5/2 or 9/2.
3358.1 *7*	(11/2$^+$)		B F	Jπ: from γ(θ) in (p,γ) and γ from 9/2$^+$.
3411.8 *4*	1/2$^+$	1.80 keV *18*	ABC	
3465[&] *4*	1/2$^-$	50 keV *20*	bCDe	
3480[&] *5*	1/2$^-$	12.0 keV *15*	bC e	
3563.0 *3*	3/2$^+$		AB	Jπ: log *ft*=5.1 from 3/2$^+$ parent, comparison to > transition strengths for isospin analog state of 3526 keV in ^{41}Ca (2004Fu28,2014Ka01).
3678[@] *3*	(3/2$^-$,5/2,7/2$^-$)		AB	XREF: A(?). Jπ: 1962γ to 3/2$^-$ and 3678γ to 7/2$^-$. If corresponds to level observed in ^{41}Ti ε decay, 5/2$^+$ would be favored from log *ft*=5.6 from 3/2$^+$ parent. E(level): could also correspond to 3690 *130* level observed in ^{41}Ti ε decay.
3697.1 *3*	7/2		B F	Jπ: from γ(θ) in (p,γ).
3732[&] *3*	1/2$^-$	12.0 keV *12*	CDE	Jπ: L(^{3}He,d)=1; p(θ).
3774[&] *3*	3/2$^-$	0.70 keV *7*	BCd f	Jπ: assignment from p(θ) in (p,p) inconsistent with D(+Q) 3775γ to 7/2$^-$ in (p,γ).
3781.2 *2*	(5/2$^+$)		B d f	Jπ: γ(θ) and 3780γ to 7/2$^-$, tentative 1062γ to 1/2$^+$, 898γ to 7/2$^+$.
3788[&] *5*	3/2$^+$,5/2$^+$	0.20 keV *2*	C f	
3808[#] *12*	(1/2,3/2,5/2)$^+$		A F	Jπ: log *ft*=5.2 from 3/2$^+$ parent.
3905 *20*			F	
3969[&] *5*	1/2$^+$	4 keV	ABC	
4023.3 *4*	(7/2$^-$)		B eF	XREF: F(4005). Jπ: from γ(θ) and RUL in (p,γ); supported by D+Q 4023γ to 7/2$^-$ with large δ value which favors Δπ=no. However, L(^{3}He,d)=(3,4) suggests 5/2$^-$,7/2$^+$ for a 4030 *20* group.
4030.7 *6*	7/2$^-$		B eF	XREF: F(4038). Jπ: from γ(θ) and RUL in (p,γ), supported by D+Q 4030γ to 7/2$^-$ with large δ value which favors Δπ=no. See also comment for 4022.8 level.
4245[@] *4*	5/2$^+$		AB	Jπ: from γ(θ) and RUL in (p,γ).
4328[@] *4*	5/2$^+$		AB	XREF: A(4310). Jπ: from log *ft*=5.3 from 3/2$^+$ parent and 4328γ to 7/2$^-$.
4441 *4*	(5/2$^-$,7/2$^-$)		B	Jπ: from γ(θ) and RUL in (p,γ).
4502[&] *4*	3/2$^+$	1.0 keV *2*	A C f	
4514[@] *4*	(9/2$^+$)		B Ef	Jπ: 5/2 or 9/2 from γ(θ) in (p,γ), L(^{3}He,d)=4.
4535 *4*	3/2$^-$	12 keV *3*	C	
4644 *4*	1/2$^-$	36 keV *10*	C	
4656 *12*	(1/2,3/2,5/2)$^+$		A	Jπ: from log *ft*=5.4 from 3/2$^+$ parent.
4777[&] *4*	3/2$^+$	3 keV *1*	A C	
4810[@] *3*	(5/2$^-$,7/2$^-$,9/2$^+$)		B E	Jπ: from γ(θ) in (p,γ) and L(^{3}He,d)=(3,4).
4867[&] *4*	5/2$^+$	2.0 keV *5*	ABC	
4929 *5*	5/2$^+$		A	Jπ: log *ft*=4.2 from 3/2$^+$ parent; comparison to > transition strengths for isospin analog state of 4815 keV in ^{41}Ca (2004Fu28,2014Ka01).
4947 *4*	5/2$^+$	1.0 keV *2*	C	
4949[&] *4*	5/2$^-$	2.0 keV *4*	BCD	$T_{1/2}$: other: 2.4 keV *6* in (p,γ).
5011[@] *3*	(7/2$^-$)		B f	Jπ: from γ(θ) and RUL in (p,γ).

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Adopted Levels, Gammas (continued)

^{41}Sc Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
5023[&] *4*	$1/2^+$	6 keV *2*	A C f	XREF: A(5007).
5037.5 *14*	$9/2^+$	0.4 keV *1*	BCDEfG I	Jπ: $\gamma(\theta)$ in (p,γ), L(^{3}He,d)=4.
5074 *4*	$1/2^-$	3 keV *1*	C	
5084[&] *4*	$3/2^+$	0.7 keV *2*	A C	XREF: A(5067).
5143[&] *4*	$3/2^-$	3 keV *1*	BC	
5167 *5*			B	
5200 *7*			B	
5225 *9*			B	
5324 *7*			B	
5356 *5*	$3/2^+$	3 keV *1*	C	
5374[&] *4*	$5/2^+$	7 keV *2*	ABC	$T_{1/2}$: other: 9.5 keV *30* in (p,γ).
5396 *5*	$3/2^-$	4 keV *1*	C	
5419[&] *5*	$5/2^+$	18 keV *5*	C E	
5490 *5*	$1/2^-$	12 keV *4*	C	
5493[&] *5*	$1/2^+$	1.0 keV *2*	A C	
5520[&] *5*	$5/2^-$	0.5 keV *2*	BC e	
5534[&] *5*	$3/2^-$	20 keV *5*	BC e	
5568[@] *9*			B ef	
5576[&] *5*	$3/2^+$	6 keV *2*	ABC f	Jπ: comparison to > transition strengths for isospin analog state of 5480 keV in ^{41}Ca (2004Fu28,2014Ka01).
5649[&] *5*	$5/2^-$	3 keV *1*	BC	
5690[&] *5*	$1/2^-$	1.0 keV *3*	BC	
5704[&] *5*	$1/2^-$	12 keV *4*	BC	$T_{1/2}$: other: 11.5 keV *30* from (p,γ).
5708[&] *5*	$5/2^-$	12 keV *4*	BCDE	
5755 *5*	$3/2^-$	7 keV *3*	C	
5773[@] *4*	$5/2^+$		AB	Jπ: from log *ft*=5.0 from $3/2^+$ parent; comparison to > transition strengths for isospin analog state of 5652 keV in ^{41}Ca (2004Fu28,2014Ka01).
5801 *8*			B	
5810 *4*			B	
5836[&] *5*	$5/2^+$	8.7 keV	A C	Jπ: comparison to > transition strengths for isospin analog state of of 5717 keV in ^{41}Ca (2004Fu28,2014Ka01).
5862 *20*	$5/2^-$		b DE	Jπ: L(^{3}He,d)=3 and pn(θ) in (d,n). E(level): from (^{3}He,d),(pol ^{3}He,d).
5867[&] *4*	$5/2^+$	12.3 keV	bC	
5885[#] *11*	$5/2^+$		Ab	Jπ: from log *ft*=4.7 from $3/2^+$ parent; comparison to > transition strengths for isospin analog state of 5756 keV in ^{41}Ca (2004Fu28,2014Ka01). E(level): possibly the same as the 5867-kev level.
5915 *11*			B	
5941[&] *5*	$3/2^+$	55 eV *5*	ABC	T=3/2
5971[&] *5*	$5/2^-$,$7/2^-$	4.2 keV *20*	BCD	$T_{1/2}$: from (p,γ). Other: 6.6 keV from (p,p).
5986 *5*	$3/2^-$	8.7 keV	C	
6013 *5*	$1/2^+$	26.7 keV	C	
6036 *11*	$1/2^+$		A	Jπ: from log *ft*=4.8 from $3/2^+$ parent; comparison to > transition strengths for isospin analog state of 5890 keV in ^{41}Ca (2004Fu28,2014Ka01).
6047[&] *5*	$3/2^-$	12.1 keV	BC	$T_{1/2}$: other: 3.9 keV *10* for 6058 *11* in (p,γ).
6085[&] *5*	$(1/2,3/2,5/2)^+$		ABC	Jπ: from log *ft*=4.8 from $3/2^+$ parent.

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Adopted Levels, Gammas (continued)

^{41}Sc Levels (continued)

E(level)†	Jπ‡	$T_{1/2}$	XREF	Comments
6112@ *11*			AB	XREF: A(?).
6116 *11*			B	
6131 *5*	$3/2^+,5/2^+$	2.9 keV	C	
6147& *5*	$5/2^+$	2.9 keV	ABC	
6203 *5*	$3/2^-$	6.5 keV	C	
6236 *5*	$5/2^-,7/2^-$	8.3 keV	C	
6259 *5*			C	
6314 *5*			C	
6326 *5*			C	
6335 *5*	$1/2^+$	27.9 keV	C	
6361& *5*	$5/2^+$	2.8 keV	a C	
6399& *5*	$3/2^+,5/2^+$	8.1 keV	a C	
6414& *5*	$5/2^+$	6.0 keV	A C	XREF: A(6435).
6435& *5*	$5/2^-$	10.4 keV	Cde	
6458 *5*	$(3/2^-)$	4.9 keV	C	
6469& *5*	$5/2^-$	12.1 keV	Cde	
6475& *5*	$(1/2,3/2,5/2)^+$		A C	XREF: A(6468). Jπ: from log *ft*=4.7 from $3/2^+$ parent.
6507 *5*			C	
6513 *5*	$5/2^+$	18.8 keV	C	
6522 *5*			C	
6533& *5*	$5/2^+$	1.3 keV	A C	XREF: A(6560).
6572 *5*	$5/2^-$	4.5 keV	C	
6585 *5*	$1/2^-$	4.5 keV	C	
6589 *5*	$1/2^+$		C	
6610 *5*	$1/2^+$	9.5 keV	C	
6622 *5*	$5/2^+$	3.2 keV	C	
6643 *5*			C	
6651 *5*	$9/2^+$	4.0 keV	C	
6673 *40*	$(1/2,3/2,5/2)^+$		A	E(level): this level may correspond to 6643 and/or 6700 levels observed in (p,p),(p,p′γ):Res. Jπ: from log *ft*=4.7 from $3/2^+$ parent.
6691 *5*	$3/2^-$	3.2 keV	C	
6700 *5*	$5/2^+$	6.2 keV	C	
6730 *5*			C	
6741 *5*	$5/2^+$	7.2 keV	C	
6752 *5*			C	
6772 *5*	$(3/2^-)$		C	
6783 *5*	$5/2^-$	10.4 keV	C	
6824& *5*	$5/2^+$	4.1 keV	A C	
6841 *5*	$5/2^-$	6.3 keV	C	
6857 *5*	$3/2^-$	9.6 keV	C	
6872& *5*	$(1/2,3/2)^-$		C e	
6877# *40*	$(1/2,3/2,5/2)^+$		A e	Jπ: from log *ft*=4.5 from $3/2^+$ parent.
6880& *5*	$9/2^+$	1.3 keV	C e	
6895& *5*	$(9/2^+)$	3.4 keV	C e	
6908& *5*	$5/2^-$	6.9 keV	C e	
6923& *5*	$(5/2)^-$	4.5 keV	C e	
6947& *5*	$(1/2,3/2,5/2)^+$	1.3 keV	A C	Jπ: from log *ft*=5.4 from $3/2^+$ parent.
6970 *5*	$5/2^+$	6.9 keV	C	
6996 *5*	$9/2^+$	1.3 keV	C	

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Adopted Levels, Gammas (continued)

^{41}Sc Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
7004 *5*	(9/2$^+$)	<1.0 keV	C	
7022[&] *5*			a C	
7033[&] *5*	5/2$^+$	3.2 keV	a C	
7069 *5*	5/2$^-$	9.3 keV	C	
7078 *5*			C	
7107 *5*	5/2$^+$	19.8 keV	C	
7113 *5*	(3/2,5/2)$^-$	14.0 keV	C	
7123 *5*		7.7 keV	C	
7142 *5*	5/2$^+$	12.0 keV	C	
7177 *5*	1/2$^-$,3/2$^+$,7/2$^-$		C	
7182 *20*	(1/2,3/2,5/2)$^+$		A	Jπ: from log *ft*=5.3 from 3/2$^+$ parent. E(level): this level may correspond to 7177, 7201 and/or 7206 levels in (p,p),(p,p′γ):Res.
7201[&] *5*	5/2$^+$	40 keV	C i	
7206[&]			C i	
7245 *5*	5/2$^-$	12 keV	C	
7264			C	
7279 *5*	5/2$^+$	9 keV	C	
7297 *5*	(7/2$^+$)		C	
7313			C	
7333 *5*	5/2$^+$	23 keV	C	
7338 *5*	5/2$^-$		C	
7347 *5*	(5/2$^+$)	10 keV	C	
7352 *5*	(9/2$^+$)	8 keV	C	
7360 *19*	(1/2,3/2,5/2)$^+$		A	Jπ: from log *ft*=5.4 from 3/2$^+$ parent. E(level): this level may correspond to the 7347 and/or 7382 levels in (p,p),(p,p′γ):Res.
7382[&]			C e	
7396[&] *5*	(9/2$^+$)		C e	
7406[&] *5*	(5/2)		C e	
7421[&]			C e	
7469 *5*	(3/2$^+$)		C	
7474 *5*		44 keV	C	
7489 *5*	(7/2$^-$,9/2$^+$)		C	
7494			C	
7523 *5*	(7/2$^+$)		C	
7538 *5*	3/2$^{(+)}$	8 keV	C	
7557 *5*	3/2$^-$	12 keV	C	
7572 *5*	3/2$^+$	10 keV	C	
7606 *5*	(5/2$^-$)		C	
7620 *50*	(1/2,3/2,5/2)$^+$		A	Jπ: from log *ft*=5.4 from 3/2$^+$ parent. E(level): this level may correspond to 7572 and/or 7650 levels in (p,p),(p,p′γ):Res.
7640 *5*	(9/2$^+$)	30 keV	C	
7650 *5*	(5/2$^+$)		C	
7660 *5*	1/2$^-$	30 keV	C	
7718 *5*	3/2$^-$	20 keV	C	
7742 *5*	(3/2$^+$)		C	
7777[&] *5*	7/2$^-$	35 keV	C e	
7815[&] *5*	(1/2)		C e	
7830[&] *5*	5/2$^-$	33 keV	C e	
7855[&] *5*	(9/2$^+$)	27 keV	C e	

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Adopted Levels, Gammas (continued)

^{41}Sc Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
7874 *5*	(1/2$^-$)	20 keV	C	
7894[&] *5*	(1/2,3/2,5/2)$^+$		A C	Jπ: from log *ft*=5.3 from 3/2$^+$ parent. E(level): 7900 *50* in ^{41}Ti ε decay could correspond to 7894 and/or 7903 levels in (p,p),(p,p′γ):Res.
7903 *5*	(1/2)		C	
7938 *5*			C	
7947 *5*			C	
7962 *5*			C	
7981 *5*			C	
8006 *5*	(3/2$^-$)	25 keV	C	
8089[&] *5*	(3/2)$^-$	50 keV	C e	
8147[&] *5*	(5/2$^+$)	75 keV	C e	
8450 *10*	(9/2$^+$)		C	
8645[&] *10*	(9/2$^+$)		C E I	XREF: E(8594).
8879 *10*	9/2$^+$	8 keV	C	
9128[&] *10*	9/2$^+$	18 keV	C e	E(level): 9600 *520* in (^{3}He,d),(pol ^{3}He,d).
9269[&] *10*	9/2$^+$	10 keV	C e	
9415[&] *10*	9/2$^+$	11 keV	C e	
9513[&] *10*	9/2$^+$	15 keV	C e	
9659[&] *10*	9/2$^+$	16 keV	C e	
9698[&] *10*	9/2$^+$	12 keV	C e i	
9815[&] *10*	9/2$^+$	13 keV	C e i	
10500			E	E(level): unresolved multiplet.
11100			I	

[†] Levels reported with <1 keV precision are from (p,γ). Source of level energies known to >1 keV in cases where the level has been observed in more than one dataset are indicated.
[‡] From p(θ) in ^{40}Ca(p,p),(p,p′γ):Res, except where noted.
[#] From ^{41}Ti ε decay.
[@] From (p,γ).
[&] From (p,p),(p,p′γ): Res.

Adopted Levels, Gammas (continued)

γ(^{41}Sc)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	Comments
1716.48	3/2$^-$	1716.5	100	0	7/2$^-$			
2414.9	3/2$^-$	319	<8	2096.0	3/2$^+$			
		698	100	1716.48	3/2$^-$			
		2414	<5	0	7/2$^-$			
2588.30	5/2$^-$	492	<0.3	2096.0	3/2$^+$			
		872	2.5 *3*	1716.48	3/2$^-$			
		2588	100.0 *3*	0	7/2$^-$	(M1+E2)[#]	1.2 *+11−6*	
2666.84	5/2$^+$	571	<0.6	2096.0	3/2$^+$			
		950	4.4 *8*	1716.48	3/2$^-$			
		2667	100 *8*	0	7/2$^-$	E1(+M2)[@]	0.07 *+14−7*	
2719.38	1/2$^+$	623	<5	2096.0	3/2$^+$			
		1003	100	1716.48	3/2$^-$			
		2719	<7	0	7/2$^-$			
2882.47	7/2$^+$	786	0.08 *3*	2096.0	3/2$^+$			
		2883.1 *5*	100.0 *3*	0	7/2$^-$	E1(+M2)	+0.05 *5*	
2972.3	7/2	876	<0.2	2096.0	3/2$^+$			
		2972	100	0	7/2$^-$	D(+Q)	0.5 *+5−4*	
3014	(3/2$^-$,5/2,7/2$^+$)	917	100 *6*	2096.0	3/2$^+$			
		3013	15 *6*	0	7/2$^-$			
3185.4	(5/2$^-$)	466	<0.3	2719.38	1/2$^+$			
		597	<0.2	2588.30	5/2$^-$			
		770	<0.2	2414.9	3/2$^-$			
		1089	<0.2	2096.0	3/2$^+$			
		3185	100	0	7/2$^-$	E1+M2[@]	+0.18 *+4−5*	
3411.8	1/2$^+$	529	<3	2882.47	7/2$^+$			
		692	<3	2719.38	1/2$^+$			
		745	<3	2666.84	5/2$^+$			
		823	<2	2588.30	5/2$^-$			
		997	<3	2414.9	3/2$^-$			
		1695	100	1716.48	3/2$^-$			
		3411	<2	0	7/2$^-$			
3480	1/2$^-$	1759	100	1716.48	3/2$^-$			E_γ: could also belong to the decay of the 3465-keV level.
		3475	<4	0	7/2$^-$			E_γ: could also belong to the decay of the 3465-keV level.
3563.0	3/2$^+$	1846	100	1716.48	3/2$^-$			
		3563	<13	0	7/2$^-$			
3678	(3/2$^-$,5/2,7/2$^-$)	1962	56 *19*	1716.48	3/2$^-$			
		3678	100 *19*	0	7/2$^-$			
3697.1	7/2	684	<0.1	3014	(3/2$^-$,5/2,7/2$^+$)			
		814	3.4 *4*	2882.47	7/2$^+$			
		1030	4.5 *2*	2666.84	5/2$^+$	D+Q	0.26 *18*	

Adopted Levels, Gammas (continued)

γ(^{41}Sc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	Comments
3697.1	7/2	1109	<0.1	2588.30	5/2$^-$			
		1282	<0.1	2414.9	3/2$^-$			
		1601	1.1 *1*	2096.0	3/2$^+$			
		3697	100.0 *4*	0	7/2$^-$	D(+Q)	0.06 *10*	
3774	3/2$^-$	3774	100	0	7/2$^-$			Mult.,δ: D(+Q) with δ=0.00 *11* inconsistent with Adopted ΔJ=2.
3781.2	(5/2$^+$)	768	1.5 *15*	3014	(3/2$^-$,5/2,7/2$^+$)			
		898	3.0 *15*	2882.47	7/2$^+$			
		1062	1.5 *15*	2719.38	1/2$^+$			
		1114	9.0 *15*	2666.84	5/2$^+$			
		1193	1.5 *15*	2588.30	5/2$^-$			
		1685	3.0 *15*	2096.0	3/2$^+$			
		2064	30.0 *15*	1716.48	3/2$^-$			
		3781	100.0 *45*	0	7/2$^-$			
4023.3	(7/2$^-$)	1140	<1.0	2882.47	7/2$^+$			
		1304	<0.7	2719.38	1/2$^+$			
		1356	33.8 *14*	2666.84	5/2$^+$			
		1434	2.8 *7*	2588.30	5/2$^-$			
		1927	0.7 *7*	2096.0	3/2$^+$			
		2306	3.2 *8*	1716.48	3/2$^-$			
		4023	100.0 *14*	0	7/2$^-$	M1+E2[#]	+1.1 *4*	
4030.7	7/2$^-$	1148	<0.4	2882.47	7/2$^+$			
		1442	<0.3	2588.30	5/2$^-$			
		1934	<0.2	2096.0	3/2$^+$			
		2314	2.0 *6*	1716.48	3/2$^-$			
		4031	100.0 *6*	0	7/2$^-$	M1+E2[#]	+1.14 *15*	
4245	5/2$^+$	1232	29 *2*	3014	(3/2$^-$,5/2,7/2$^+$)			
		1363	23 *1*	2882.47	7/2$^+$			
		1526	<0.2	2719.38	1/2$^+$			
		1578	8.4 *6*	2666.84	5/2$^+$	M1+E2[#]	+0.14 *9*	
		1657	0.8 *2*	2588.30	5/2$^-$			
		1830	1.2 *4*	2414.9	3/2$^-$			
		2149	100 *2*	2096.0	3/2$^+$	M1+E2[#]	0.06 *2*	
		2529	0.4 *4*	1716.48	3/2$^-$			
		4245	32.9 *10*	0	7/2$^-$	E1(+M2)[@]	0.03 *5*	
4328	5/2$^+$	1661	<1.2	2666.84	5/2$^+$			
		1740	23 *2*	2588.30	5/2$^-$			
		1913	<1.1	2414.9	3/2$^-$			
		2232	<0.7	2096.0	3/2$^+$			
		4328	100.0 *17*	0	7/2$^-$			
4441	(5/2$^-$,7/2$^-$)	1255	54 *4*	3185.4	(5/2$^-$)			

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Adopted Levels, Gammas (continued)

γ(^{41}Sc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]
4441	(5/2$^-$,7/2$^-$)	1558	21 *5*	2882.47	7/2$^+$		
		1721	<2	2719.38	1/2$^+$		
		1773	84 *4*	2666.84	5/2$^+$		
		1852	<2	2588.30	5/2$^-$		
		4440	100 *5*	0	7/2$^-$		
4514	(9/2$^+$)	4514	100	0	7/2$^-$	E1(+M2)[@]	0.035 *+18−35*
4810	(5/2$^-$,7/2$^-$,9/2$^+$)	4810	100	0	7/2$^-$	D+Q	0.17 *12*
4867	5/2$^+$	4867	100	0	7/2$^-$		
4949	5/2$^-$	4949	100	0	7/2$^-$	M1+E2[#]	+0.25 *9*
5011	(7/2$^-$)	5011	100	0	7/2$^-$	M1+E2[#]	0.81 *16*
5037.5	9/2$^+$	1678.8[&] *5*	3.8 *7*	3358.1	(11/2$^+$)		
		2153.9[&] *5*	36 *3*	2882.47	7/2$^+$	M1+E2	+0.017 *+22−7*
		5036.9[&] *5*	100 *3*	0	7/2$^-$	E1+M2[@]	+0.017 *+8−15*
5143	3/2$^-$	5143	100	0	7/2$^-$		
5374	5/2$^+$	5374	100	0	7/2$^-$		
5576	3/2$^+$	5576	100	0	7/2$^-$		
5649	5/2$^-$	5649	100	0	7/2$^-$		
5708	5/2$^-$	5708	100	0	7/2$^-$		
5941	3/2$^+$	1694.0[&] *4*	100 *12*	4245	5/2$^+$	M1(+E2)[#]	−0.04 *8*
		2161.0[&] *15*	8 *5*	3781.2	(5/2$^+$)		
		2523.0[&] *24*	30 *8*	3411.8	1/2$^+$		
		3270.5[&] *15*	28 *7*	2666.84	5/2$^+$	M1(+E2)[#]	−0.41 *16*
		3843	<22	2096.0	3/2$^+$		
5971	5/2$^-$,7/2$^-$	5971	100	0	7/2$^-$		
6147	5/2$^+$	6147	100	0	7/2$^-$		

[†] From (p,γ), except where noted. γ-ray energies are from level energy differences, rounded off to the nearest keV, except where noted.
[‡] From (p,γ), except where noted.
[#] D+Q from γ(θ), Δπ=no from level scheme.
[@] D+Q from γ(θ), Δπ=yes from level scheme.
[&] Measured Eγ value from (p,γ).

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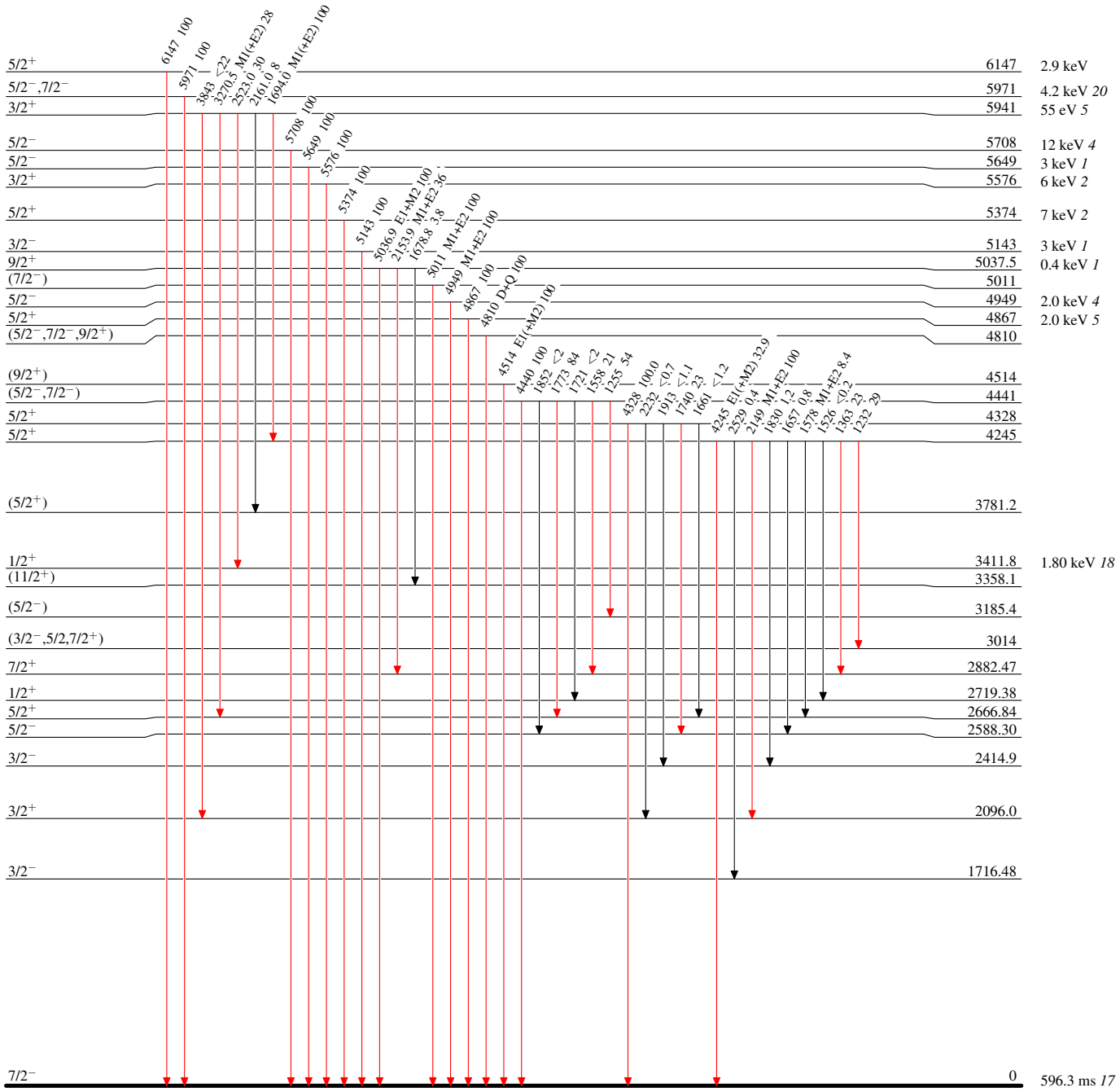
Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified



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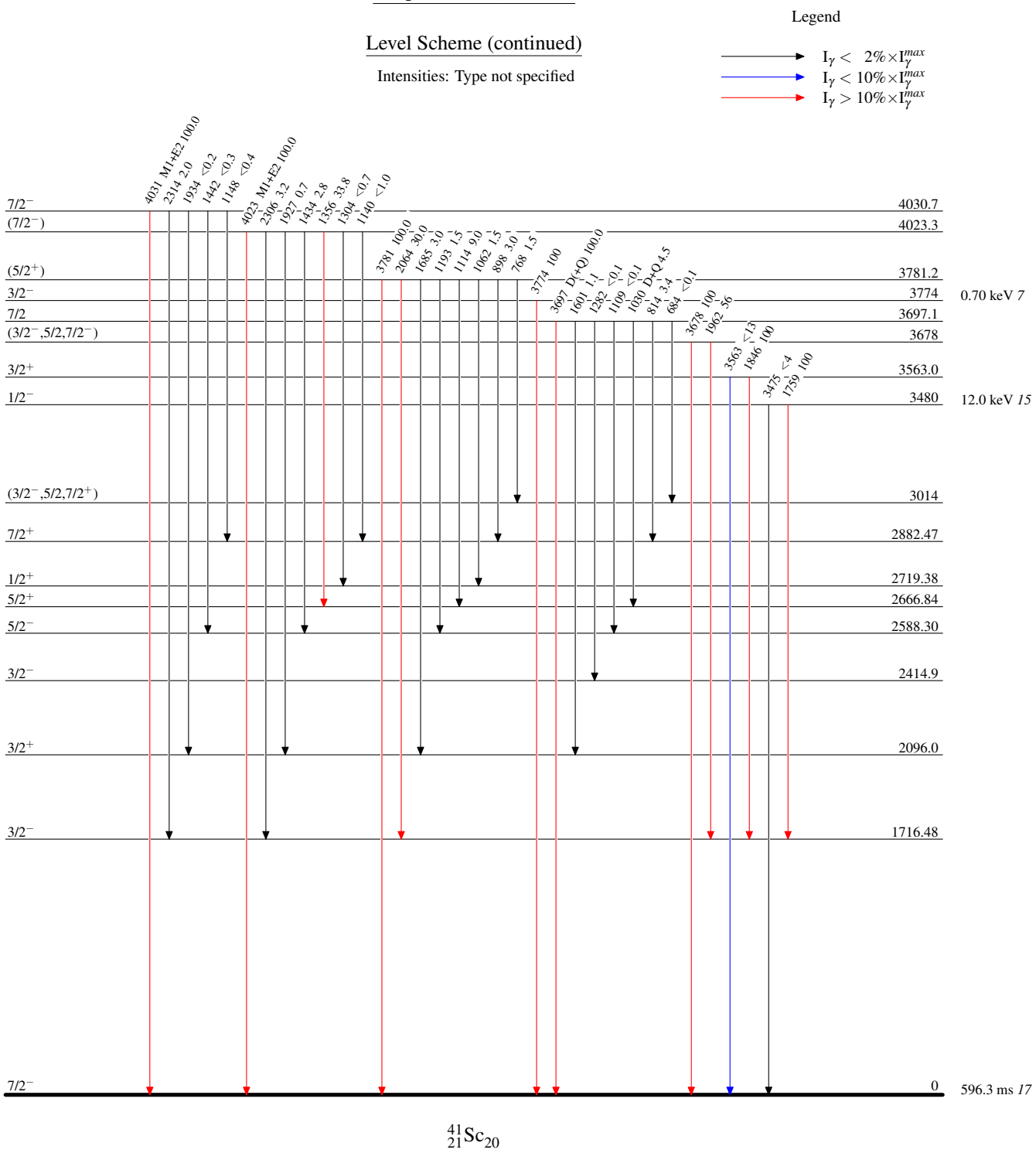
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified



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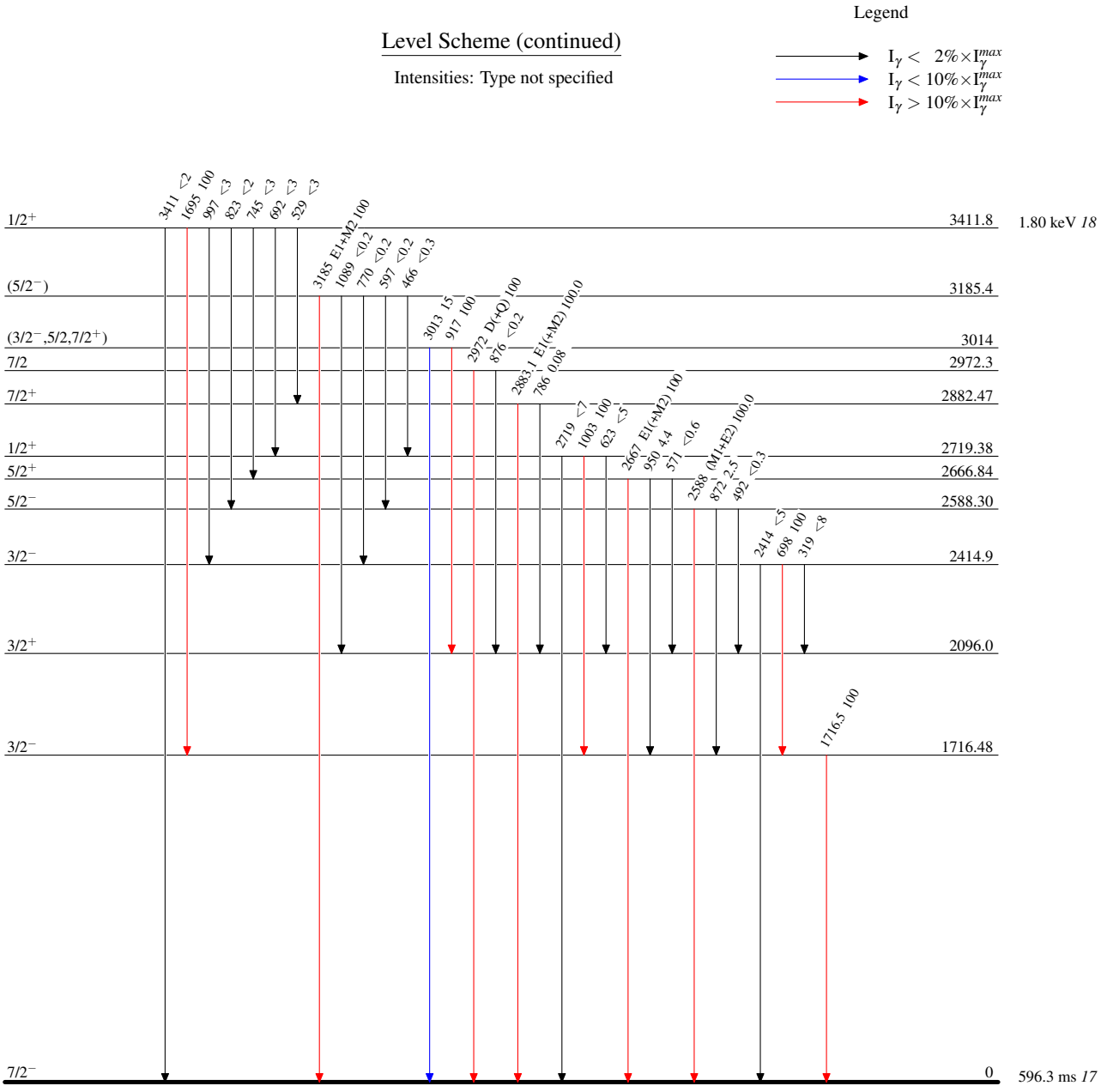
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified



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