^{21}Mg β^+ decay

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	R. B. Firestone	NDS 127, 1 (2015)	15-Jan-2015

Parent: ^{21}Mg: E=0.0; $J^\pi=5/2^+$; $T_{1/2}$=122 ms *3*; Q(β^+)=13098 *16*; %β^+ decay=100.0
Primarily as observed from delayed proton decay (1973Se08).

^{21}Na Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0	$3/2^+$	22.49 s *4*	
331.93 *10*	$5/2^+$		
1716.0 *7*	$7/2^+$		
3544.0 *6*	$5/2^+$		
4294 *2*	$5/2^+$		
4468 *4*	$3/2^+$		
5020 *9*	$(3/2,5/2,7/2)^+$		
5380 *9*	$(3/2,5/2,7/2)^+$		
5770 *20*	$(3/2,5/2,7/2)^+$		
5867 *25*	$(3/2,5/2,7/2)^+$		
5979 *15*	$(3/2,5/2,7/2)^+$		
6090 *40*	$(5/2,7/2)^-$		
6170 *30*	$(3/2,5/2,7/2)^+$		
6341 *20*	$(3/2,5/2,7/2)^+$		
6512 *16*	$3/2^+$		
8303 *13*	$(3/2,5/2,7/2)^+$		
8397 *15*	$3/2^+$		
8827 *15*	$5/2^+$		
8973 *3*	$(3/2,5/2)^+$		T=3/2
9280 *30*	(3/2,5/2,7/2)		

ε,β^+ radiations

E(decay)	E(level)	Iβ^+[†][#]	Iε[#]	Log *ft*	I($\varepsilon+\beta^+$)[#]	Comments
(3.82×10^3 *4*)	9280	0.0013 *3*	1.2×10^{-06} *3*	6.39 *14*	1.3×10^{-3} *3*	av Eβ= 1239 *16*; εK= 0.000869 *15*
(4125 *16*)	8973	2.79 *16*	0.00193 *11*	3.26 *4*	2.79 *16*	av Eβ= 1386 *8*; εK= 0.000637 *5*
(4271 *22*)	8827	1.19 *13*	0.00072 *8*	3.72 *6*	1.19 *13*	av Eβ= 1456 *11*; εK= 0.000555 *6*
(4701 *22*)	8397	0.180 *20*	7.5×10^{-05} *8*	4.79 *6*	0.18 *2*	av Eβ= 1664 *11*; εK= 0.000384 *4*
(4795 *21*)	8303	0.31 *3*	1.20×10^{-04} *12*	4.60 *6*	0.31 *3*	av Eβ= 1709 *10*; εK= 0.000356 *3*
(6586 *23*)	6512	1.07 *6*	1.31×10^{-04} *7*	4.84 *3*	1.07 *6*	av Eβ= 2584 *11*; εK= 1.125×10^{-048}
(6.76×10^3 *3*)	6341	0.86 *7*	9.6×10^{-05} *8*	4.99 *5*	0.86 *7*	av Eβ= 2668 *13*; εK= 1.028×10^{-048}
(6.93×10^3 *4*)	6170	0.140 *20*	1.44×10^{-05} *21*	5.84 *8*	0.14 *2*	av Eβ= 2752 *17*
(7.01×10^3 *4*)	6090	0.140 *10*	1.38×10^{-05} *10*	5.87 *5*	0.14 *1*	av Eβ= 2792 *21*
(7119 *22*)	5979	0.47 *6*	4.4×10^{-05} *6*	5.38 *7*	0.47 *6*	av Eβ= 2846 *11*
(7.23×10^3 *3*)	5867	0.62 *4*	5.5×10^{-05} *4*	5.30 *4*	0.62 *4*	av Eβ= 2902 *15*
(7.33×10^3 *3*)	5770	0.34 *3*	2.87×10^{-05} *25*	5.59 *5*	0.34 *3*	av Eβ= 2949 *13*
(7718 *18*)	5380	2.43 *21*	1.72×10^{-04} *15*	4.86 *5*	2.43 *21*	av Eβ= 3142 *9*
(8078 *18*)	5020	2.53 *25*	1.53×10^{-04} *15*	4.95 *5*	2.53 *25*	av Eβ= 3320 *9*
(8630 *17*)	4468	10.5 *5*	0.000508 *24*	4.48 *3*	10.5 *5*	av Eβ= 3593 *8*
(8804 *16*)	4294	5.4 *3*	2.44×10^{-04} *14*	4.82 *3*	5.4 *3*	av Eβ= 3679 *8*
(9554 *16*)	3544.0	0.45 *7*	1.55×10^{-05} *24*	6.09 *8*	0.45 *7*	av Eβ= 4050 *8*
(11382 *16*)	1716.0	10.9[‡] *20*	2.1×10^{-04} *4*	5.11 *9*	10.9 *20*	av Eβ= 4958 *8*
(12766 *16*)	331.93	41[‡] *5*	0.00055 *7*	4.79 *6*	41 *5*	av Eβ= 5646 *8*
(13098 *16*)	0.0	16[‡] *4*	2.0×10^{-04} *5*	5.26 *13*	16 *4*	av Eβ= 5812 *8*

Continued on next page (footnotes at end of table)

^{21}Mg β^+ decay (continued)

ε,β^+ radiations (continued)

† From delayed-p intensity.
‡ As calculated from the mirror ^{21}F β^- decay.
# Absolute intensity per 100 decays.

$\gamma(^{21}Na)$

E_γ	I_γ[#]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	δ
331.91 *10*	51 *5*	331.93	$5/2^+$	0.0	$3/2^+$		
1384.1 *3*	10.1 *19*	1716.0	$7/2^+$	331.93	$5/2^+$		
1715.9 *7*	0.76 *22*	1716.0	$7/2^+$	0.0	$3/2^+$		
1828.0[†] *9*	≈0.0007[‡]	3544.0	$5/2^+$	1716.0	$7/2^+$		
3212.1[†] *6*	≈0.0002[‡]	3544.0	$5/2^+$	331.93	$5/2^+$		
3544.0[†] *6*	≈0.010[‡]	3544.0	$5/2^+$	0.0	$3/2^+$	(M1+E2)	+0.07 *2*

† Calculated from level scheme.
‡ From Adopted Gammas and Γ_γ/Γ≈2.5% (1969Bl03).
# Absolute intensity per 100 decays.

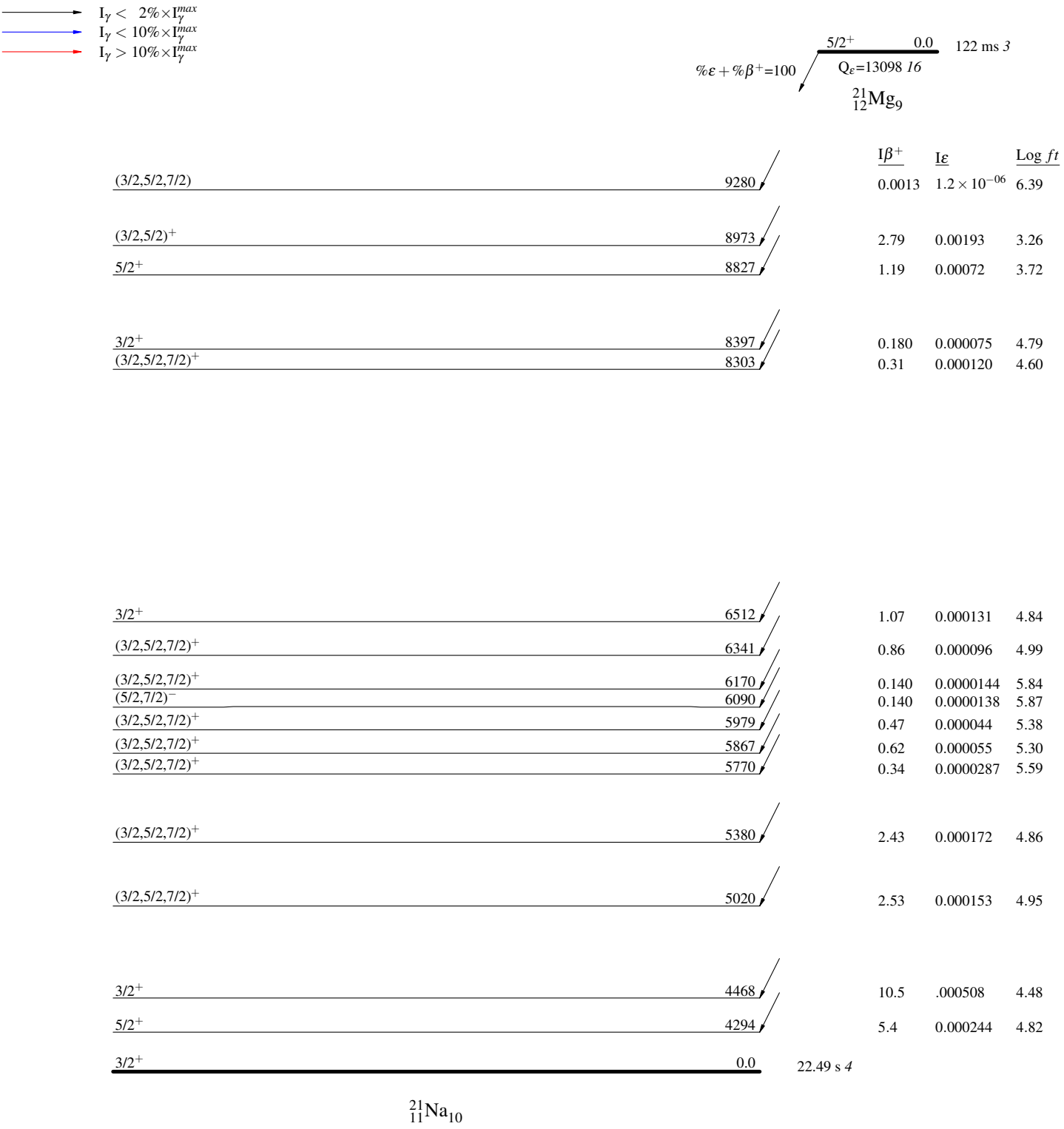
^{21}Mg β^+ decay

Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$



	Iβ+	Iε	Log *ft*
	0.0013	1.2×10^{-06}	6.39
	2.79	0.00193	3.26
	1.19	0.00072	3.72
	0.180	0.000075	4.79
	0.31	0.000120	4.60
	1.07	0.000131	4.84
	0.86	0.000096	4.99
	0.140	0.0000144	5.84
	0.140	0.0000138	5.87
	0.47	0.000044	5.38
	0.62	0.000055	5.30
	0.34	0.0000287	5.59
	2.43	0.000172	4.86
	2.53	0.000153	4.95
	10.5	.000508	4.48
	5.4	0.000244	4.82

^{21}Mg β^+ decay

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays