

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	R. B. Firestone	NDS 110,1691 (2009)	1-Feb-2008

$Q(\beta^-)=3835.0$ 12; $S(n)=9011.2$ 12; $S(p)=10695.2$ 13; $Q(\alpha)=-11735.1$ 22 [2012Wa38](#)

Note: Current evaluation has used the following Q record \$ 3835.0 12 9011.0 12 10695.313-11735.222 [2003Au03](#).

 ^{25}Na LevelsCross Reference (XREF) Flags

- A ^{25}Ne β^- decay
 B $^{23}\text{Na}(t,\gamma), ^{26}\text{Mg}(t,\alpha\gamma)$
 C $^{26}\text{Mg}(d,^3\text{He}), (\text{pol } d, ^3\text{He})$

E(level)	J^π	$T_{1/2}$	XREF	Comments
0	$5/2^+$	59.1 s 6	ABC	$\% \beta^- = 100$ $\mu = +3.683$ 4; $Q = -0.10$ 5 $T_{1/2}$: weighted average from 1990En08 . J^π : From (pol d, ^3He).
89.53 10	$3/2^+$	5.1 ns 3	ABC	J^π : M1 γ to $5/2^+$, L=2 in (d, ^3He).
1069.32 19	$1/2^+$	1.32 ps 14	ABC	J^π : From (pol d, ^3He).
2202.0 10	$3/2^+$	25 fs 4	ABC	J^π : From (pol d, ^3He).
2416 3		140 fs 100	BC	
2788 3	$(1/2^+, 3/2, 5/2^-)$	173 fs 34	BC	J^π : γ to $5/2^+$, γ from $1/2^-$.
2914 4	$5/2^+$	10 fs 4	BC	J^π : From (pol d, ^3He).
3353 3		16 fs 5	BC	
3455 4		146 fs 17	B	
3687 2	$(3/2)^+$	18 fs 8	ABC	J^π : $\text{Log}ft=4.82$ from $1/2^+$, L=(2) in (d, ^3He).
3928 7	$(1/2^+)$	<28 fs	BC	J^π : L=(0) in (d, ^3He).
3950 5	$(1/2^+, 3/2, 5/2^+)$	<83 fs	B	J^π : γ s to $1/2^+$ and $5/2^+$.
3995 5	$1/2^-$	31 fs 7	BC	J^π : From (pol d, ^3He).
4132 5		16 fs 6	B	
4289 3	$1/2^+$		ABC	J^π : From (pol d, ^3He).
4340 7			B	
4450 10			B	
4710 10			B	
4800 10			B	
4962 10			B	
5146 10			B	
5190 9	$3/2^-$		BC	J^π : From (pol d, ^3He).
5223 10			B	
5347 10			B	
5378 10			B	
5465 10			B	
5484 12			B	
5690 12	$3/2^-$		BC	J^π : From (pol d, ^3He).
5713 12			B	
5746 12			B	
5876 12			C	
6005 22	$(1/2, 3/2)^-$		C	J^π : From (pol d, ^3He).
6079 15			C	
6154 15			C	
6549 19	$3/2^-$		C	J^π : From (pol d, ^3He).
6753 21			C	
6863 20			C	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

 ^{25}Na Levels (continued)

<u>E(level)</u>	<u>J^{π}</u>	<u>XREF</u>	<u>Comments</u>
6936 20		C	
6985 20		C	
7603 17	3/2 ⁻	C	J ^{π} : From (pol d, ^3He).
7780 25		C	
8052 26	(1/2,3/2) ⁻	C	J ^{π} : From (pol d, ^3He).
8400 25		C	

Adopted Levels, Gammas (continued)

E _i (level)	J ^π _i	γ(²⁵ Na)						δ	Comments
		E _γ	I _γ	E _f	J ^π _f	Mult.			
89.53	3/2 ⁺	89.53	100	0	5/2 ⁺	M1(+E2)	<0.15	B(M1)(W.u.)=0.0060 4 δ: limit deduced from T _{1/2} and RUL(E2).	
1069.32	1/2 ⁺	979.77	100.0 11	89.53	3/2 ⁺			B(E2)(W.u.)=7.1 11	
		1069.30	12.4 11	0	5/2 ⁺	[E2]			
2202.0	3/2 ⁺	1132.8 10	49 6	1069.32	1/2 ⁺	M1+E2	+0.05 9	B(M1)(W.u.)=0.16 4; B(E2)(W.u.)=1.8 +67-18	
		2112.5 10	36 4	89.53	3/2 ⁺	M1+E2	+8 4	B(M1)(W.u.)=0.0003 3; B(E2)(W.u.)=24 5	
		2202.0 10	100 6	0	5/2 ⁺				
2416		2416 3	100	0	5/2 ⁺				
2788	(1/2 ⁺ ,3/2,5/2 ⁻)	2788 2	100	0	5/2 ⁺				
2914	5/2 ⁺	2825 3	100	89.53	3/2 ⁺				
3353		3263 3	11 3	89.53	3/2 ⁺				
		3353 3	100 3	0	5/2 ⁺				
3455		1043 2		2416					
3687	(3/2) ⁺	3599 3	25 6	89.53	3/2 ⁺				
		3688 3	100 6	0	5/2 ⁺				
3928	(1/2 ⁺)	3928 7	100	0	5/2 ⁺				
3950	(1/2 ⁺ ,3/2,5/2 ⁺)	2887 3		1069.32	1/2 ⁺				
		3861 5		89.53	3/2 ⁺				
		3950 5		0	5/2 ⁺				
3995	1/2 ⁻	1207 3	100	2788	(1/2 ⁺ ,3/2,5/2 ⁻)				
4132		4132 5		0	5/2 ⁺				
4289	1/2 ⁺	3220 [†] 3	100	1069.32	1/2 ⁺				

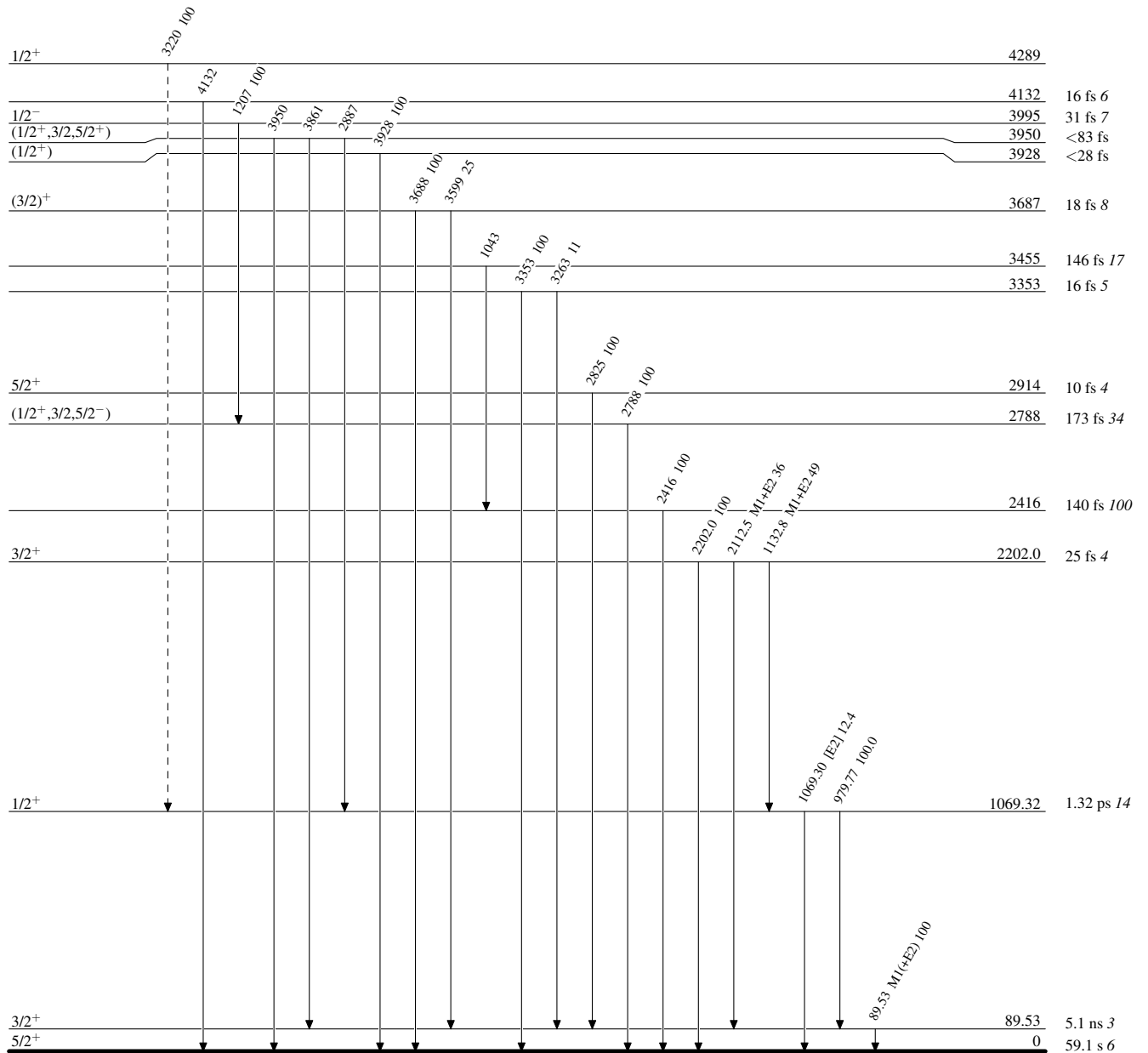
[†] Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

-----▶ γ Decay (Uncertain) $^{25}_{11}\text{Na}_{14}$