$^{14}C(^{14}C,d\gamma)$ 2006Le17

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia and A. M. Hurst	NDS 134, 1 (2016)	1-Feb-2016

2006Le17: E=22 MeV. Measured Eγ, Iγ, dγ coin, $\gamma\gamma\gamma$ coin, $\gamma(\theta)$, using an array of three (four crystal) Compton-suppressed 'clover' detectors and seven Compton-suppressed single Ge crystals. The three 'clovers' and one single Ge detectors were placed at 90°, two single crystals at 35° and four at 145° relative to the beam direction. Charged particles were detected with Si detector (E-ΔE) telescope at 0°. Comparisons with shell-model calculations. Detailed discussion of a missing 1^+ state below 3 MeV, and possible candidates.

^{26}Na Levels

E(level)[†]	J$^\pi$	E(level)[†]	E(level)[†]	J$^\pi$	E(level)[†]	J$^\pi$
0	3^+	1660.4 *12*	2284.1 *10*	5^+	3222.9 *10*	(2^+)
82.3 *6*	1^+	1996.9 *7*	2452.9 *8*		3305.0 *12*	
233.6 *6*	2^+	2045.4 *7*	2712.5 *12*		3417.5 *12*	
407.0 *6*	2^+	2126.1 *10*	2726.4 *10*	1^+	3603.6 *12*	
1408.0 *10*		2182.5 *8*	2804.0 *8*		4193.1 *13*	
1514.0 *8*	1^+	2230.9 *8*	2937.8 *8*			

[†] From least-squares fit to Eγ data, assuming Δ(Eγ)=1 keV for each γ ray.

$\gamma(^{26}$Na)

E$_\gamma$	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.	δ	Comments
82.5		82.3	1^+	0	3^+			
150.9	82	233.6	2^+	82.3	1^+	M1+E2	+0.16 *7*	
233.3	100	233.6	2^+	0	3^+	M1+E2	−0.32 *14*	
324.1	16	407.0	2^+	82.3	1^+	M1+E2	+0.14 *9*	
350	13	2804.0		2452.9				E$_\gamma$: 351 in Figure 4 of 2006Le17.
406.5	87	407.0	2^+	0	3^+	M1+E2	−0.25 *12*	
1041	19	3222.9	(2^+)	2182.5				
1107	6.5	1514.0	1^+	407.0	2^+			
1177	8.1	3222.9	(2^+)	2045.4				
1212	25	2726.4	1^+	1514.0	1^+			
1280	45	1514.0	1^+	233.6	2^+	M1(+E2)	+0.07 *10*	
1308	3.2	3305.0		1996.9				
1408	33	1408.0		0	3^+			
1578	15	1660.4		82.3	1^+			
1590	17	1996.9		407.0	2^+			
1639	7.2	2045.4		407.0	2^+			
1764	31	1996.9		233.6	2^+			
1775	14	2182.5		407.0	2^+			
1996[†]	31[†]	1996.9		0	3^+			E$_\gamma$: 1997 in Figure 4 of 2006Le17.
1996[†]	31[†]	2230.9		233.6	2^+			
2044[†]	7.2[†]	2045.4		0	3^+			E$_\gamma$: 2045 in Figure 4 of 2006Le17.
2044[†]	7.2[†]	2452.9		407.0	2^+			
2101	2.6	2182.5		82.3	1^+			
2126	147	2126.1		0	3^+			
2232	44	2230.9		0	3^+			
2284	14	2284.1	5^+	0	3^+			
2371	19	2452.9		82.3	1^+			
2493	23	2726.4	1^+	233.6	2^+			
2630	19	2712.5		82.3	1^+			

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$^{14}C(^{14}C,d\gamma)$ 2006Le17 (continued)

$\gamma(^{26}Na)$ (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π
2679	24	4193.1		1514.0	1^+
2805	54	2804.0		0	3^+
2855	9.9	2937.8		82.3	1^+
2938	13	2937.8		0	3^+
3335	20	3417.5		82.3	1^+
3521	41	3603.6		82.3	1^+

† Multiply placed with undivided intensity.

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Level Scheme

Intensities: Relative I_γ
& Multiply placed: undivided intensity given