

Table 15.5 from (1986AJ01): Radiative decays in $^{15}\text{N}^a$

E_i (MeV)	J_i^π	E_f (MeV)	J_f^π	Branch (%)	Mult. mixing ratio δ
5.27	$\frac{5}{2}^+$	0	$\frac{1}{2}^-$	100	-0.131 ± 0.013
5.30	$\frac{1}{2}^+$	0	$\frac{1}{2}^-$	100	
6.32 ^b	$\frac{3}{2}^-$	0	$\frac{1}{2}^-$	100	$+0.132 \pm 0.004^p$
7.16 ^c	$\frac{5}{2}^+$	5.27	$\frac{5}{2}^+$	100 ± 0.4	$-0.014^{+0.012}_{-0.015}$
7.30	$\frac{3}{2}^+$	0	$\frac{1}{2}^-$	99.3 ± 0.7	$-0.017^{+0.005}_{-0.008}$
		5.27	$\frac{5}{2}^+$	0.6 ± 0.1	$+0.18 \pm 0.15$, or $+2.5 \pm 1.0$
		5.30	$\frac{1}{2}^+$	0.2 ± 0.1	-0.31 ± 0.15 , or $+4.6 \pm 3.4$
		6.32	$\frac{3}{2}^-$	< 0.25	
7.57 ^d	$\frac{7}{2}^+$	0	$\frac{1}{2}^-$	1.3 ± 0.6	
		5.27	$\frac{5}{2}^+$	98.7 ± 1.0	-0.028 ± 0.012
8.31	$\frac{1}{2}^+$	0	$\frac{1}{2}^-$	79 ± 2	
		5.27	$\frac{5}{2}^+$	< 3	
		5.30	$\frac{1}{2}^+$	10 ± 2	
		6.32	$\frac{3}{2}^-$	4.4 ± 1.0	
		7.16	$\frac{5}{2}^+$	1.2 ± 0.6	
		7.30	$\frac{3}{2}^+$	4.4 ± 0.7	
8.57 ^e	$\frac{3}{2}^+$	0	$\frac{1}{2}^-$	33 ± 2	$-0.085^{+0.005}_{-0.009}$
		5.27	$\frac{5}{2}^+$	65 ± 3	-0.091 ± 0.007
		6.32	$\frac{3}{2}^-$	1.4 ± 0.6	
		7.16	$\frac{5}{2}^+$	3.6 ± 0.5	
9.05 ^f	$\frac{1}{2}^+$	0	$\frac{1}{2}^-$	92 ± 3	
		5.27	$\frac{5}{2}^+$	3.5 ± 1	
		6.32	$\frac{3}{2}^-$	4.5 ± 1	
		7.30	$\frac{3}{2}^+$	1.2 ± 0.4	
9.152	$\frac{3}{2}^-$	0	$\frac{1}{2}^-$	100 ± 3	$+0.015^{+0.041}_{-0.034}$
9.155	$\frac{5}{2}^+$	0	$\frac{1}{2}^-$	< 2	
		5.27	$\frac{5}{2}^+$	11 ± 1	
		5.30	$\frac{1}{2}^+$	10 ± 1	
		6.32	$\frac{3}{2}^-$	22 ± 2	
		7.16	$\frac{5}{2}^+$	57 ± 3	

Table 15.5 from (1986AJ01): Radiative decays in $^{15}\text{N}^a$ (continued)

E_i (MeV)	J_i^π	E_f (MeV)	J_f^π	Branch (%)	Mult. mixing ratio δ
9.23 ^g	$\frac{1}{2}^-$	0	$\frac{1}{2}^-$	22 ± 5	
		5.30	$\frac{1}{2}^+$	42 ± 8	
		6.32	$\frac{3}{2}^-$	35 ± 6	
		7.30	$\frac{3}{2}^+$	2.6 ± 0.7	
9.76 ^h	$\frac{5}{2}^-$	0	$\frac{1}{2}^-$	81.5 ± 2.8	
		5.27 + 5.30		7.5 ± 1.5	
		6.32	$\frac{3}{2}^-$	3.7 ± 0.8	
		7.16	$\frac{5}{2}^+$	2.3 ± 0.5	
		7.57	$\frac{7}{2}^+$	5.0 ± 0.6	
9.83 ⁱ	$\frac{7}{2}^-$	5.27	$\frac{5}{2}^+$	≈ 85	
		6.32	$\frac{3}{2}^-$	2.2 ± 0.9	
		7.16	$\frac{5}{2}^+$	2.4 ± 1.1	
		7.30	$\frac{3}{2}^+$	3.7 ± 0.9	
		7.57	$\frac{7}{2}^+$	7.3 ± 1.0	
9.93 ^j	$\frac{3}{2}^-$	0	$\frac{1}{2}^-$	77.6 ± 1.9	
		5.27 + 5.30		15.4 ± 1.5	
		6.32	$\frac{3}{2}^-$	4.9 ± 1.2	
		7.30	$\frac{3}{2}^+$	2.1 ± 0.8	
10.07 ^k	$\frac{3}{2}^+$	0	$\frac{1}{2}^-$	96.0 ± 0.7	
		5.27 + 5.30		4.0 ± 0.7	
10.45 ^l	$\frac{5}{2}^-$	5.27	$\frac{5}{2}^+$	55.0 ± 0.8	$+0.021 \pm 0.033$
		6.32	$\frac{3}{2}^-$	31.3 ± 1.7	-0.59 ± 0.13
		7.16	$\frac{5}{2}^+$	5.2 ± 0.1	$+0.13^{+0.03}_{-0.04}$
		8.57	$\frac{3}{2}^+$	3.8 ± 0.6	-0.3 ± 0.4
10.53	$\frac{5}{2}^+$	9.152	$\frac{3}{2}^-$	4.7 ± 0.1	$-0.32^{+0.09}_{-0.10}$
		0	$\frac{1}{2}^-$	< 0.1	
		5.27	$\frac{5}{2}^+$	38.7 ± 0.2	-0.27 ± 0.03
		6.32	$\frac{3}{2}^-$	7.7 ± 0.1	-0.28 ± 0.004
		7.16	$\frac{5}{2}^+$	19.4 ± 0.2	$+0.007^{+0.010}_{-0.008}$
		7.30	$\frac{3}{2}^+$	31.4 ± 0.5	$+0.066 \pm 0.005$

Table 15.5 from (1986AJ01): Radiative decays in $^{15}\text{N}^a$ (continued)

E_i (MeV)	J_i^π	E_f (MeV)	J_f^π	Branch (%)	Mult. mixing ratio δ
10.69	$\frac{9}{2}^+$	8.57	$\frac{3}{2}^+$	2.4 ± 0.1	$+0.012_{-0.005}^{+0.006}$
		9.152	$\frac{3}{2}^-$	0.3 ± 0.1	$-0.20_{-0.02}^{+0.03}$
		5.27	$\frac{5}{2}^+$	61.6 ± 0.3	
		7.16	$\frac{5}{2}^+$	2.1 ± 0.1	-0.03 ± 0.07
10.70	$\frac{3}{2}^-$	7.57	$\frac{7}{2}^+$	36.3 ± 0.6	$+0.118 \pm 0.008$
		0	$\frac{1}{2}^-$	52.6 ± 0.8	$+0.180_{-0.002}^{+0.006}$
		5.27	$\frac{5}{2}^+$	37.4 ± 0.6	$-0.24_{-0.008}^{+0.004}$
		5.30	$\frac{1}{2}^+$	0.8 ± 0.1	-0.13 ± 0.07
		6.32	$\frac{3}{2}^-$	3.8 ± 0.1	$+0.135 \pm 0.015$
		7.16	$\frac{5}{2}^+$	0.4 ± 0.1	0.3 ± 0.3
		7.30	$\frac{3}{2}^+$	2.3 ± 0.1	-0.027 ± 0.023
		8.31	$\frac{1}{2}^+$	0.8 ± 0.1	$-0.017_{-0.016}^{+0.018}$
		9.05	$\frac{1}{2}^+$	0.2 ± 0.1	-0.007 ± 0.12
		9.152	$\frac{3}{2}^-$	0.2 ± 0.1	-0.11 ± 0.03
10.80 ^m	$\frac{3}{2}^+$	9.23	$\frac{1}{2}^-$	1.5 ± 0.1	$+0.049_{-0.005}^{+0.006}$
		0	$\frac{1}{2}^-$	51.5 ± 0.4	-0.02 ± 0.01
		5.27	$\frac{5}{2}^+$	4.9 ± 0.1	-0.63 ± 0.04
		5.30	$\frac{1}{2}^+$	15.5 ± 0.2	-0.55 ± 0.02
		6.32	$\frac{3}{2}^-$	5.4 ± 0.2	-0.07 ± 0.05
		7.16	$\frac{5}{2}^+$	7.8 ± 0.1	$+0.14 \pm 0.03$
		7.30	$\frac{3}{2}^+$	5.8 ± 0.1	-0.12 ± 0.02
		8.31	$\frac{1}{2}^+$	3.6 ± 0.1	$+0.12 \pm 0.03$
		9.05	$\frac{1}{2}^+$	0.3 ± 0.1	
		9.152	$\frac{3}{2}^-$	0.9 ± 0.1	
		9.155	$\frac{5}{2}^-$	4.2 ± 0.1	
		11.62 ⁿ	$\frac{1}{2}^+; T = \frac{3}{2}$	0	$\frac{1}{2}^-$
5.27	$\frac{5}{2}^+$			< 1	
5.30	$\frac{1}{2}^+$			7.4 ± 1.5	
6.32	$\frac{3}{2}^-$			1.9 ± 1.5	
12.52	$\frac{5}{2}^+; T = \frac{3}{2}$	0	$\frac{1}{2}^-$	< 1	

Table 15.5 from (1986AJ01): Radiative decays in ^{15}N ^a (continued)

E_i (MeV)	J_i^π	E_f (MeV)	J_f^π	Branch (%)	Mult. mixing ratio δ
13.39 ^o	$\frac{3}{2}^+$	5.27	$\frac{5}{2}^+$	94.2 ± 0.6	-0.02 ± 0.04
		5.30	$\frac{1}{2}^+$	< 1	
		6.32	$\frac{3}{2}^-$	5.8 ± 0.6	-0.02 ± 0.04
		0	$\frac{1}{2}^-$	100	

^a See also Tables 15.6, 15.13 and 15.16. For references see Table 15.4 in (1981AJ01). Please note that (1976BE1B) is an unpublished Ph.D. thesis.

^b Transitions to $^{15}\text{N}^*(5.27, 5.30)$ are < 0.1% and < 0.05%, respectively (1975MO28).

^c Transitions to $^{15}\text{N}^*(0, 5.30, 6.32)$ are < 0.1%, < 4% and < 0.5%.

^d Transitions to $^{15}\text{N}^*(5.30, 6.32)$ are < 4% and < 0.6%.

^e Transitions to $^{15}\text{N}^*(5.30, 7.30, 7.57)$ are < 12%, < 0.7% and < 3%.

^f Transitions to $^{15}\text{N}^*(7.16, 7.57, 8.31)$ are < 10%, < 2% and < 0.5%.

^g Transitions to $^{15}\text{N}^*(7.16, 7.57, 8.31)$ are < 1%, < 20% and < 5%.

^h Transitions to $^{15}\text{N}^*(7.30, 8.31, 8.57)$ are < 2%, < 1% and < 2%.

ⁱ Transitions to $^{15}\text{N}^*(0, 5.30)$ are < 4% and < 15%.

^j Transitions to $^{15}\text{N}^*(7.16, 7.57, 8.31, 8.57)$ are each < 1%.

^k For upper limits for transitions to other states see Table 15.4 (1981AJ01).

^l Transitions to $^{15}\text{N}^*(0, 5.30, 9.83)$ are < 12%, < 2% and < 0.1%.

^m π is + because if π were - the Γ_γ and δ of the $10.80 \rightarrow 5.30$ MeV transition would lead to an unacceptably high M2 value (33 W.u.) (P.M. Endt, private communication).

ⁿ See footnote ^g in Table 15.4 (1981AJ01).

^o $\Gamma_{\gamma_0} = 3.0 \pm 0.9$ eV, $\Gamma_p \Gamma_{\gamma_0} / \Gamma = 1.70 \pm 0.5$ eV; $\delta = 0.00 \pm 0.04$ (M2/E1); $B(E1) = (1.2 \pm 0.4) \times 10^{-3} e^2 \cdot \text{fm}^2$. Transitions to $^{15}\text{N}^*(5.27, 5.30) < 8\%$ and to $^{15}\text{N}^*(6.32, 7.16, 7.30) < 5\%$.

^p Weighted mean of all measurements (E.K. Warburton, private communication).