

Table 15.4 from (1981AJ01): Radiative decays in ^{15}N ^a

E_i (MeV)	J_i^π	E_f (MeV)	J_f^π	Branch (%)	Mult. mixing ratio δ	Refs.
5.27	$\frac{5}{2}^+$	0	$\frac{1}{2}^-$	100	-0.131 ± 0.013	(1975BE23, 1976BE1B)
5.30	$\frac{1}{2}^+$	0	$\frac{1}{2}^-$	100		
6.32	$\frac{3}{2}^-$	0	$\frac{1}{2}^-$	100	$+0.122 \pm 0.006^k$	(1975MO28, 1976BE1B)
		5.27	$\frac{5}{2}^+$	< 1		(1965WA16, 1975MO28)
		5.30	$\frac{1}{2}^+$	< 0.5		(1975MO28)
		7.16	$\frac{5}{2}^+$	< 0.1		(1976BE1B)
7.16	$\frac{5}{2}^+$	0	$\frac{1}{2}^-$	< 0.1		(1976BE1B)
		5.27	$\frac{5}{2}^+$	100 ± 0.4	$-0.014^{+0.012}_{-0.015}$	(1976BE1B)
		5.30	$\frac{1}{2}^+$	< 4		(1966AL18, 1968GI11)
		6.32	$\frac{3}{2}^-$	< 0.5		(1965WA16)
7.30	$\frac{3}{2}^+$	0	$\frac{1}{2}^-$	99.3 ± 0.7	$-0.017^{+0.005}_{-0.008}$	(1976BE1B)
		5.27	$\frac{5}{2}^+$	0.6 ± 0.1	$+0.18 \pm 0.15$, or $+2.5 \pm 1.0$	(1976BE1B)
		5.30	$\frac{1}{2}^+$	0.2 ± 0.1	-0.31 ± 0.15 , or $+4.6 \pm 3.4$	(1976BE1B)
		6.32	$\frac{3}{2}^-$	< 0.25		(1965WA16)
7.57	$\frac{7}{2}^+$	0	$\frac{1}{2}^-$	1.3 ± 0.6		(1975BE23, 1976BE1B)
		5.27	$\frac{5}{2}^+$	98.7 ± 1.0	-0.028 ± 0.012	(1976BE1B)
		5.30	$\frac{1}{2}^+$	< 4		(1966AL18)
		6.32	$\frac{3}{2}^-$	< 0.6		(1965WA16)
8.31	$\frac{1}{2}^+$	0	$\frac{1}{2}^-$	79 ± 2		(1965WA16, 1966WA08, 1967PH03)
		5.27	$\frac{5}{2}^+$	< 3		(1965WA16)
		5.30	$\frac{1}{2}^+$	10 ± 2		(1965WA16)
		6.32	$\frac{3}{2}^-$	7.8 ± 2		(1965WA16)
				4.4 ± 1.0^A		(1967PH03)
		7.16	$\frac{5}{2}^+$	1.2 ± 0.6		(1967PH03)
		7.30	$\frac{3}{2}^+$	2.2 ± 0.4		(1965WA16)
				4.4 ± 0.7^A		(1967PH03)
8.57 ^c	$\frac{3}{2}^+$	0	$\frac{1}{2}^-$	33 ± 2	$-0.085^{+0.005}_{-0.009}$	(1965WA16, 1966WA08, 1967PH03)
		5.27	$\frac{5}{2}^+$	65 ± 3		(1966WA08)
					-0.091 ± 0.007	(1976BE1B)
		5.30	$\frac{1}{2}^+$	< 12		(1965WA16)
		6.32	$\frac{3}{2}^-$	3 ± 1		(1965WA16)
				1.4 ± 0.6^A		(1967PH03)
		7.16	$\frac{5}{2}^+$	3.6 ± 0.5		(1967PH03)
		7.30	$\frac{3}{2}^+$	< 0.7		(1965WA16)
9.05	$\frac{1}{2}^+$	7.57	$\frac{7}{2}^+$	< 3		(1965WA16, 1966WA08)
		0	$\frac{1}{2}^-$	92 ± 3^A		(1965WA16, 1966WA08)

Table 15.4 from (1981AJ01): Radiative decays in ^{15}N ^a (continued)

E_i (MeV)	J_i^π	E_f (MeV)	J_f^π	Branch (%)	Mult. mixing ratio δ	Refs.
9.152	$\frac{3}{2}^-$			91.6 ± 00.9	$+0.015^{+0.041}_{-0.034}$	(1967PH03)
		5.27	$\frac{5}{2}^+$	3.5 ± 1 ^A		(1966WA08)
				4.7 ± 0.7		(1967PH03)
		6.32	$\frac{3}{2}^-$	4.5 ± 1 ^A		(1966WA08)
				3.7 ± 0.5		(1967PH03)
		7.16	$\frac{5}{2}^+$	< 10		(1965WA16)
		7.30	$\frac{3}{2}^+$	1.2 ± 0.4 ^A		(1965WA16)
		7.57	$\frac{7}{2}^+$	< 2		(1965WA16)
		8.31	$\frac{1}{2}^+$	< 0.5		(1965WA16)
		0	$\frac{1}{2}^-$	100 ± 3		(1969SI04, 1976BE1B)
9.155 ^{c,d}	$\frac{5}{2}^+$	0	$\frac{1}{2}^-$	< 2		(1978HA39)
		5.27	$\frac{5}{2}^+$	11 ± 1		(1978HA39)
		5.30	$\frac{1}{2}^+$	10 ± 1		(1978HA39)
		6.32	$\frac{3}{2}^-$	22 ± 2		(1978HA39)
		7.16	$\frac{5}{2}^+$	57 ± 3		(1978HA39)
9.23 ^e	$\frac{1}{2}^-$	0	$\frac{1}{2}^-$	22 ± 5		(1979HA38)
		5.30	$\frac{1}{2}^+$	42 ± 8		(1979HA38)
		6.32	$\frac{3}{2}^-$	35 ± 6		(1979HA38)
		7.16	$\frac{5}{2}^+$	< 30		(1965WA16)
				< 1		(1967PH03)
		7.30	$\frac{3}{2}^+$	< 30		(1965WA16)
				2.6 ± 0.7		(1967PH03)
		7.57	$\frac{7}{2}^+$	< 20		(1965WA16)
9.76 ^c	$\frac{5}{2}^-$	8.31	$\frac{1}{2}^+$	< 5		(1965WA16)
		0	$\frac{1}{2}^-$	81.5 ± 2.8		(1967PH03)
		5.27 + 5.30		7.5 ± 1.5		(1967PH03)
		6.32	$\frac{3}{2}^-$	3.7 ± 0.8		(1967PH03)
		7.16	$\frac{5}{2}^+$	2.3 ± 0.5		(1967PH03)
		7.57	$\frac{7}{2}^+$	5.0 ± 0.6		(1967PH03)
		8.31	$\frac{1}{2}^+$	< 1		(1967PH03)
		8.57	$\frac{3}{2}^+$	< 2		(1965WA16, 1967PH03)
		0	$\frac{1}{2}^-$	< 4		(1967PH03)
		5.27	$\frac{5}{2}^+$	≈ 85		(1965WA16, 1967PH03)
9.83 ^c	$\frac{7}{2}^-$	5.30	$\frac{1}{2}^+$	< 15		(1965WA16)
		6.32	$\frac{3}{2}^-$	2.2 ± 0.9		(1967PH03)
		7.16	$\frac{5}{2}^+$	2.4 ± 1.1		(1967PH03)
		7.30	$\frac{3}{2}^+$	3.7 ± 0.9		(1967PH03)

Table 15.4 from (1981AJ01): Radiative decays in ^{15}N ^a (continued)

E_i (MeV)	J_i^π	E_f (MeV)	J_f^π	Branch (%)	Mult. mixing ratio δ	Refs.
9.93	$\frac{3}{2}^-$	7.57	$\frac{7}{2}^+$	7.3 ± 1.0		(1967PH03)
		0	$\frac{1}{2}^-$	77.6 ± 1.9		(1967PH03)
		5.27 + 5.30		15.4 ± 1.5		(1967PH03)
		6.32	$\frac{3}{2}^-$	4.9 ± 1.2		(1967PH03)
		7.16	$\frac{5}{2}^+$	< 1		(1967PH03)
		7.30	$\frac{3}{2}^+$	2.1 ± 0.8		(1967PH03)
		7.57	$\frac{7}{2}^+$	< 1		(1967PH03)
		8.31	$\frac{1}{2}^+$	< 1		(1967PH03)
		8.57	$\frac{3}{2}^+$	< 1		(1967PH03)
10.07	$\frac{3}{2}^+$	0	$\frac{1}{2}^-$	96.0 ± 0.7		(1967PH03)
		5.27 + 5.30		4.0 ± 0.7		(1967PH03)
		6.32, 7.16, 7.30, 7.57		< 2		(1966WA08)
		8.31	$\frac{1}{2}^+$	< 2		(1965WA16)
		8.57	$\frac{3}{2}^+$	< 3		(1965WA16)
		10.45	$\frac{5}{2}^-$	0	$\frac{1}{2}^-$	< 12
5.27	$\frac{5}{2}^+$	55.0 ± 0.8		$+0.021 \pm 0.033$	(1976BE1B)	
5.30	$\frac{1}{2}^+$	< 2			(1976BE1B)	
6.32	$\frac{3}{2}^-$	31.3 ± 1.7		-0.59 ± 0.13	(1976BE1B)	
7.16	$\frac{5}{2}^+$	5.2 ± 0.1		$+0.13^{+0.03}_{-0.04}$	(1976BE1B)	
8.57	$\frac{3}{2}^+$	3.8 ± 0.6		-0.3 ± 0.4	(1976BE1B)	
9.152	$\frac{3}{2}^-$	4.7 ± 0.1		$-0.32^{+0.09}_{-0.10}$	(1976BE1B)	
9.83	$\frac{7}{2}^-$	< 0.1			(1976BE1B)	
10.53	$\frac{5}{2}^+$	0		$\frac{1}{2}^-$	< 0.1	
5.27		$\frac{5}{2}^+$	38.7 ± 0.2	-0.27 ± 0.03	(1976BE1B)	
6.32		$\frac{3}{2}^-$	7.7 ± 0.1	-0.028 ± 0.004	(1976BE1B)	
7.16		$\frac{5}{2}^+$	19.4 ± 0.2	$+0.007^{+0.010}_{-0.008}$	(1976BE1B)	
7.30		$\frac{3}{2}^+$	31.4 ± 0.5	$+0.066 \pm 0.005$	(1976BE1B)	
8.57		$\frac{3}{2}^+$	2.4 ± 0.1	$+0.012^{+0.006}_{-0.005}$	(1976BE1B)	
9.152		$\frac{3}{2}^-$	0.3 ± 0.1	$-0.20^{+0.03}_{-0.02}$	(1976BE1B)	
10.69 ^c	$\frac{9}{2}^+$	5.27	$\frac{5}{2}^+$	61.6 ± 0.3		(1975BE23, 1976BE1B)
		7.16	$\frac{5}{2}^+$	2.1 ± 0.1	-0.03 ± 0.07	(1975BE23, 1976BE1B)
		7.57	$\frac{7}{2}^+$	36.3 ± 0.6	$+0.118 \pm 0.008$	(1975BE23, 1976BE1B)
10.70 ^f	$\frac{3}{2}^-$	0	$\frac{1}{2}^-$	52.6 ± 0.8	$+0.180^{+0.006}_{-0.002}$	(1976BE1B)
		5.27	$\frac{5}{2}^+$	37.4 ± 0.6	$-0.24^{+0.004}_{-0.008}$	(1976BE1B)
		5.30	$\frac{1}{2}^+$	0.8 ± 0.1	-0.13 ± 0.07	(1976BE1B)
		6.32	$\frac{3}{2}^-$	3.8 ± 0.1	$+0.135 \pm 0.015$	(1976BE1B)
		7.16	$\frac{5}{2}^+$	0.4 ± 0.1	0.3 ± 0.3	(1976BE1B)

Table 15.4 from (1981AJ01): Radiative decays in ^{15}N ^a (continued)

E_i (MeV)	J_i^π	E_f (MeV)	J_f^π	Branch (%)	Mult. mixing ratio δ	Refs.
10.80	$\frac{3}{2}^+$	7.30	$\frac{3}{2}^+$	2.3 ± 0.1	-0.027 ± 0.023	(1976BE1B)
		8.31	$\frac{1}{2}^+$	0.8 ± 0.1	$-0.017^{+0.018}_{-0.016}$	(1976BE1B)
		9.05	$\frac{1}{2}^+$	0.2 ± 0.1	-0.007 ± 0.12	(1976BE1B)
		9.152	$\frac{3}{2}^-$	0.2 ± 0.1	-0.11 ± 0.03	(1976BE1B)
		9.23	$\frac{1}{2}^-$	1.5 ± 0.1	$+0.049^{+0.006}_{-0.005}$	(1976BE1B)
		0	$\frac{1}{2}^-$	51.5 ± 0.4	-0.02 ± 0.01^f	(1976BE1B)
		5.27	$\frac{5}{2}^+$	4.9 ± 0.1	-0.63 ± 0.04^f	(1976BE1B)
		5.30	$\frac{1}{2}^+$	15.5 ± 0.2	-0.55 ± 0.02^f	(1976BE1B)
		6.32	$\frac{3}{2}^-$	5.4 ± 0.2	-0.07 ± 0.05^f	(1976BE1B)
		7.16	$\frac{5}{2}^+$	7.8 ± 0.1	$+0.14 \pm 0.03^f$	(1976BE1B)
		7.30	$\frac{3}{2}^+$	5.8 ± 0.1	-0.12 ± 0.02^f	(1976BE1B)
		8.31	$\frac{1}{2}^+$	3.6 ± 0.1	$+0.12 \pm 0.03^f$	(1976BE1B)
		9.05	$\frac{1}{2}^+$	0.3 ± 0.1		(1976BE1B)
		9.152	$\frac{3}{2}^-$	0.9 ± 0.1		(1976BE1B)
		9.155	$\frac{5}{2}^-$	4.2 ± 0.1		(1976BE1B)
11.62 ^g	$\frac{1}{2}^+; T = \frac{3}{2}$	0	$\frac{1}{2}^-$	90.7 ± 3.0		(1971KU01)
		5.27	$\frac{5}{2}^+$	< 1		(1971KU01)
		5.30	$\frac{1}{2}^+$	7.4 ± 1.5		(1971KU01)
		6.32	$\frac{3}{2}^-$	1.9 ± 1.5		(1971KU01)
		0	$\frac{1}{2}^-$	< 1		(1971KU01)
12.52	$\frac{5}{2}^+; T = \frac{3}{2}$	0	$\frac{1}{2}^-$	< 1		(1971KU01)
		5.27	$\frac{5}{2}^+$	94.2 ± 0.6^h		(1971YO03)
		5.30	$\frac{1}{2}^+$	< 1		(1971KU01)
		6.32	$\frac{3}{2}^-$	5.8 ± 0.6^i		(1971YO03)
13.39 ^j	$\frac{3}{2}^+$	0	$\frac{1}{2}^-$	100		(1976KU01)

A = adopted.

^a See also [Tables 15.5](#) and [15.17](#).

^b Please note that [\(1976BE1B\)](#) is an unpublished Ph.D. thesis.

^c See also [\(1979HA38\)](#).

^d See also [Table 15.5](#) in [\(1976AJ04\)](#).

^e See also [\(1967PH03\)](#).

^f See [\(1969SI04\)](#).

^g $\Gamma_\gamma = 49 \pm 20, 4 \pm 2, 1.0 \pm 0.8$ eV for transitions to $^{15}\text{N}^*(0, 5.30, 6.32)$ [\(1971KU01\)](#): see however [Table 15.12](#).

^h $\Gamma_\gamma = 4.3 \pm 0.7$ eV [\(1971YO03\)](#); $\delta = -0.02 \pm 0.04$ (E2/M1) [\(1971KU01\)](#).

ⁱ $\Gamma_\gamma = 0.27 \pm 0.05$ eV [\(1971YO03\)](#); $\delta = -0.02 \pm 0.04$ (E2/M1) [\(1971KU01\)](#).

^j $\Gamma_{\gamma_0} = 3.0 \pm 0.9$ 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 $^{15}\text{N}^*(6.32, 7.16, 7.30) < 5\%$ [\(1976KU01\)](#).

^k See also [Table 15.17](#).

^l 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).