

Table 18.12 from (1983AJ01): Radiative decays in ^{18}F ^a

E_i (MeV)	$J_i^\pi; T$	E_f (MeV)	Branch (%)	
0.94	$3^+; 0$	0	100	
1.04	$0^+; 1$	0	100	
1.08	$0^-; 0$	0	100	
1.12	$5^+; 0$	0.94	100	
1.70 ^b	$1^+; 0$	0	29.8 ± 1.3	
		1.04	70.2 ± 1.3	
2.10 ^c	$2^-; 0$	0	38 ± 1	$\Gamma_\gamma = (4.6 \pm 2.2) \times 10^{-5} \text{ eV}$
		0.94	31 ± 1	$\Gamma_\gamma = (4.0 \pm 1.9) \times 10^{-5} \text{ eV}$
		1.08	31 ± 1	
2.52 ^d	$2^+; 0$	0	74.9 ± 1.8	$\delta = 3.0 \pm 1.0$
		0.94	21.5 ± 1.2	$\delta = -(1.5 \pm 0.6)$
		1.70	3.9 ± 0.6	$\delta = 0.94 \pm 0.4$
3.06 ^e	$2^+; 1$	0	23.2 ± 0.8	
		0.94	76.7 ± 0.8	
		1.04	0.11 ± 0.03	
3.13 ^f	$1^-; 0$	0	39 ± 2	$\delta = +(0.07 \pm 0.05)$
		1.04	34 ± 2	$\Gamma_\gamma = (5.7 \pm 2) \times 10^{-4} \text{ eV}$
		1.08	25 ± 2	$\Gamma_\gamma = (7.3 \pm 2.7) \times 10^{-4} \text{ eV}$
		1.70	2.0 ± 0.5	$\Gamma_\gamma = (4.8 \pm 1.8) \times 10^{-4} \text{ eV}$
				$\delta = +(0.22 \pm 0.15)$
3.36 ^g	$3^+; 0$	0	45 ± 5	
		0.94	9 ± 3	
		1.70	40 ± 4	
		2.10	< 3	
		2.52	6 ± 3	$\delta = -0.4_{-0.5}^{+0.3}$
3.72 ^h	$1^+; 0$	0	5 ± 2	
		1.04	91 ± 2	$\Gamma_\gamma = (1.3 \pm 0.2) \times 10^{-3} \text{ eV}$
		3.06	4 ± 2	
3.79 ⁱ	$3^-; 0$	2.10	68 ± 4	$\delta = -(0.22 \pm 0.06)$
		2.52	2.2 ± 1.1	
		3.06	30 ± 3	$\delta = -(0.09 \pm 0.09)$

Table 18.12 from (1983AJ01): Radiative decays in ^{18}F ^a (continued)

E_i (MeV)	$J_i^\pi; T$	E_f (MeV)	Branch (%)	
3.84 ^j	$2^+; 0$	0	38 ± 2	$\delta = -(1.8 \pm 0.5)$
		0.94	8.9 ± 1.4	$\delta = -(0.3 \pm 0.3)$
		1.70	3.0 ± 1.0	
		3.06	50 ± 3	$\delta = -(0.1 \pm 0.3)$
4.12 ^k	$3^+; 0$	0	5 ± 3	
		3.06	95 ± 3	$\delta = +0.06 \pm 0.07$
4.23 ^l	$2^-; 0$	0	23 ± 2	$\delta = 0.15 \pm 0.15$
		0.94	49 ± 3	$\delta = 0.0 \pm 0.2$
		1.08	3.2 ± 1.0	
		1.70	9.3 ± 1.2	
		2.10	15 ± 5	
		3.13	0.9 ± 0.6	
4.36 ^m	1^+	3.06	100	
4.40 ⁿ	$4^-; 0$	0.94	13 ± 4	$\delta = -(0.2 \pm 0.3)$
		1.12	60 ± 6	$\delta = -(0.2 \pm 0.2)$
		2.10	27 ± 3	
4.65 ^o	$4^+; 1$	0.94	17 ± 3	
		1.12	83 ± 3	$\delta = 0.15 \pm 0.15$
4.75 ^p	$0^+; 1$	0	92 ± 4	
		1.70	8 ± 4	
4.86 ^q	$1^-; 0$	1.04	65 ± 11	
		1.08	8 ± 6	
		3.06	23 ± 7	$\delta = -(0.4 \pm 0.4)$
		3.13	4 ± 3	
4.96 ^r	$2^+; 1$	0	100	$\delta = 1.2 \pm 0.7$
5.30 ^s	$4^+; 0$	0.94	9 ± 2	$\delta = -(0.3 \pm 0.1)$
		1.12	7 ± 2	$\delta = -(1.1 \pm 0.5)$
		2.52	78 ± 3	$\Gamma_\gamma = 12 \pm 4 \text{ meV}^{\text{pp}}$
		3.36	5 ± 1	$\delta = 2.5 \pm 0.8$
		4.65	1.3 ± 0.3	
5.50 ^t	$3^{(-)}; 0$	3.06	100	$\Gamma_\gamma = 2.1 \pm 0.7 \text{ meV}^{\text{nn}}$

Table 18.12 from (1983AJ01): Radiative decays in ^{18}F ^a (continued)

E_i (MeV)	$J_i^\pi; T$	E_f (MeV)	Branch (%)	
5.603 ^u	1 ⁺	0	16.7 ± 2.3	
		1.04	3.8 ± 1.2	
		3.06	79.5 ± 5.9	$\Gamma_\gamma = 0.48 \pm 0.05 \text{ eV}^{\text{qq}}$
5.605 ^v	1 ⁻ ; 0 + 1	0	6.7 ± 1.2	
		1.04	4.2 ± 0.8	
		1.08	54.3 ± 3.1	$\Gamma_\gamma = 0.87 \pm 0.07 \text{ eV}^{\text{qq}}$
		3.06	2.6 ± 1.4	
		3.13	32.2 ± 2.5	$\delta = -0.05 \pm 0.02$
5.67 ^w	1 ⁻ ; 0 + 1	0	6.2 ± 0.4	$\delta = -0.01 \pm 0.04$
		1.04	8.1 ± 0.7	
		1.08	52 ± 3	$\Gamma_\gamma = 0.46 \pm 0.06 \text{ eV}^{\text{qq}}$
		1.70	0.8 ± 0.3	
		2.10	0.4 ± 0.2	
		3.06	4.0 ± 0.4	$\delta = 0.04 \pm 0.06$
		3.13	28.5 ± 2.0	$\delta = +0.10 \pm 0.03$
5.79 ^x	2 ⁻ ; 0	0.94	40 ± 8	
		1.08	60 ± 8	
6.10 ^y	4 ⁻ ; 0	0.94	4.9 ± 0.9	$\Gamma_\gamma = 51 \pm 10 \text{ meV}^{\text{nn}}$
		1.12	55 ± 3	
		2.10	27 ± 2	
		3.79	1.4 ± 0.3	
		4.12	1.8 ± 0.3	
		4.40	0.7 ± 0.3	
		4.65	8.7 ± 0.7	
6.10 ^z	(1 ⁺); 0	0	24 ± 3	
		0.94	11 ± 3	
		2.10	20 ± 6	
		3.06	45 ± 5	
6.14 ^{aa}	0 ⁺ ; 1	0	50 ± 3	$\Gamma_\gamma > 1.6 \text{ eV}$
		1.70	12 ± 2	
		3.72	36 ± 3	

Table 18.12 from (1983AJ01): Radiative decays in ^{18}F ^a (continued)

E_i (MeV)	$J_i^\pi; T$	E_f (MeV)	Branch (%)	
6.16 ^{bb}	$3^+; 1$	4.36	2.1 ± 0.4	$\Gamma_\gamma = 0.96 \pm 0.26 \text{ eV}^{\text{nn}}$
		5.603	0.19 ± 0.02	
		0	0.2 ± 0.2	
		0.94	51 ± 3	
		1.12	1.0 ± 0.1	
		2.52	5.5 ± 0.4	
		3.06	1.3 ± 0.3	
		3.79	11.6 ± 1.3	
		3.84	25.0 ± 1.6	
		4.12	1.5 ± 0.3	
		4.23	0.9 ± 0.3	
6.241 ^{cc}	$3^-; 0 + 1$	4.40	2.0 ± 0.2	$\Gamma_\gamma = 0.80 \pm 0.11 \text{ eV}^{\text{nn}}$
		0.94	4.6 ± 0.3	
		2.10	71.5 ± 3.0	
		3.36	1.1 ± 0.4	
		3.79	10.6 ± 0.5	
		3.84	1.0 ± 0.2	
		4.12	0.5 ± 0.2	
		4.23	7.8 ± 0.4	
		4.40	2.9 ± 0.3	
		0.94	4.1 ± 0.3	
		2.10	71.2 ± 3.0	
6.242 ^{cc}	$3^-; 0 + 1$	3.36	0.8 ± 0.3	$\Gamma_\gamma = 0.73 \pm 0.11 \text{ eV}^{\text{nn}}$
		3.79	11.6 ± 0.6	
		3.84	0.9 ± 0.2	
		4.12	1.1 ± 0.4	
		4.23	8.2 ± 0.4	
		4.40	2.1 ± 0.3	
		0.94	4.1 ± 0.3	
		2.10	71.2 ± 3.0	
		3.36	0.8 ± 0.3	
		3.79	11.6 ± 0.6	
		3.84	0.9 ± 0.2	
6.26	$1^+; 0$	0	(100)	$\Gamma_\gamma = 1.8 \pm 0.5 \text{ eV}^{\text{nn}}$
		0.94	67 ± 3	
6.28 ^{dd}	$2^+; 1$	0	0.3 ± 0.1	

Table 18.12 from (1983AJ01): Radiative decays in ^{18}F ^a (continued)

E_i (MeV)	$J_i^\pi; T$	E_f (MeV)	Branch (%)	
6.31 ^{ee}	$3^+; 0$	1.04	1.3 ± 0.1	$\Gamma_\gamma = 0.17 \pm 0.04 \text{ eV}^{\text{nn}}$
		1.70	5.7 ± 0.6	
		2.10	1.2 ± 0.3	
		2.52	0.3 ± 0.2	
		3.13	0.7 ± 0.3	
		3.36	2.3 ± 0.3	
		3.72	1.4 ± 0.5	
		3.84	15.8 ± 1.4	
		4.12	3.9 ± 0.2	
		4.36	0.5 ± 0.4	
		0	4.0 ± 0.7	
		0.94	10.6 ± 1.0	
		1.70	3.0 ± 0.8	
		2.52	4.0 ± 0.5	
		3.06	57 ± 3	
3.72	1.4 ± 0.7			
3.84	4.6 ± 1.0			
4.12	2.4 ± 1.7			
6.39 ^{ff}	$2^+; 0 + 1$	4.96	13.0 ± 1.5	$\delta = -(0.01 \pm 0.14)$
		0	1.5 ± 0.5	$\Gamma_\gamma = 0.44 \pm 0.18 \text{ eV}^{\text{nn}}$
		0.94	75 ± 3	$\delta = -(0.25 \pm 0.10)$
		1.70	6.8 ± 1.7	
		3.84	14.1 ± 1.6	$\delta = 0.1 \pm 0.2$
		4.12	2.3 ± 0.5	
6.48 ^{gg}	$3^+; 0$	0	13 ± 2	$\Gamma_\gamma = 74 \pm 21 \text{ meV}^{\text{nn}}$
		0.94	33 ± 2	
		1.12	10 ± 2	
		1.70	4 ± 2	
		2.52	4 ± 2	
		3.06	21 ± 3	
		3.79	4 ± 2	

Table 18.12 from (1983AJ01): Radiative decays in ^{18}F ^a (continued)

E_i (MeV)	$J_i^\pi; T$	E_f (MeV)	Branch (%)				
6.57 ^{hh}	5 ⁺ ; 0	3.84	9 ± 2	$\Gamma_\gamma = 26 \pm 5 \text{ meV}^{\text{nn,oo}}$			
		4.96	2 ± 2				
		0.94	15.2 ± 1.6				
		3.36	83 ± 3				
6.64 ⁱⁱ	2 ⁻ ; 1	5.30	2.3 ± 0.6	$\Gamma_\gamma = 1.4 \pm 0.4 \text{ eV}^{\text{nn}}$			
		0.94	8.9 ± 0.6				
		2.10	58 ± 3				
		3.13	22.0 ± 1.3				
		3.72	0.9 ± 0.2				
		3.79	2.4 ± 0.2				
		4.12	1.0 ± 0.3				
		4.86	2.6 ± 0.2				
		5.50	4.0 ± 0.3				
		0.94	12.6 ± 0.9				
6.78 ^{jj}	4 ⁺ ; 0	0.94	12.6 ± 0.9	$\Gamma_\gamma = 0.31 \pm 0.08 \text{ eV}^{\text{nn}}$ $\delta = -(0.35 \pm 0.18)$ $\delta = -(1.4 \pm 1.1)$ $\delta = 0.13 \pm 0.13$			
		1.12	25.2 ± 1.3				
		4.65	62 ± 2				
		0	20 ± 2				
		0.94	20 ± 2				
6.80 ^{kk}	1 ⁺ , 2, 3 ⁺ ; (0)	3.06	50 ± 3				
		3.84	3.0 ± 1.6				
		4.96	7.0 ± 1.7				
		2.10	9 ± 2				
		4.65	91 ± 2				
6.88 ^{ll}	3, 4 ⁻ ; 0	0	4 ± 0.5				
		1.08	54 ± 2				
7.34 ^{mm}	1 ⁻ ; 1	2.10	18 ± 1				
		3.06	1 ± 0.5				
		3.13	8 ± 0.5				
		4.23	15 ± 0.6				
		0.94	100				
		7.48 ^{mm}	(2)		0.94	100	

Table 18.12 from (1983AJ01): Radiative decays in ^{18}F ^a (continued)

E_i (MeV)	$J_i^\pi; T$	E_f (MeV)	Branch (%)	
7.52 ^{mm}	2^-	0.94	5 ± 4	
		2.10	7 ± 5	
		3.79	33 ± 5	
		4.40	55 ± 7	
7.53 ^{mm}		0	10 ± 3	
		0.94	14 ± 6	
		2.10	50 ± 9	
		3.79	26 ± 7	
7.59 ^{mm}		0	18 ± 7	
		0.94	14 ± 12	
		1.12	9 ± 7	
		4.65	59 ± 16	

^a For references see [Table 18.11 in \(1978AJ03\)](#).

^b Transitions to $^{18}\text{F}^*(1.04, 1.08)$ are < 0.1 and $< 0.2\%$.

^c Transitions to $^{18}\text{F}^*(1.04, 1.13, 1.70)$ are < 0.4 , < 2 and $< 0.2\%$.

^d Transitions to $^{18}\text{F}^*(1.04, 1.08, 2.10)$ are < 0.3 , < 0.3 and $< 0.2\%$.

^e Transitions to $^{18}\text{F}^*(1.08, 1.13, 1.70, 2.10, 2.53)$ are < 8 , < 14 , < 8 , < 5 and $< 5\%$.

^f Transitions to $^{18}\text{F}^*(0.94, 1.13, 2.10, 2.53)$ are < 0.6 , < 8 , < 3.0 , $< 0.3\%$.

^g Transitions to $^{18}\text{F}^*(1.04, 1.08, 1.12, 3.06)$ are < 5 , < 5 , < 3 and $< 5\%$.

^h Transitions to $^{18}\text{F}^*(0.94, 1.08, 1.12, 1.70, 2.10, 2.53, 3.13, 3.36)$ are < 2 , < 1 , < 10 , < 1 , < 1 , < 1 , < 1 and $< 4\%$.

ⁱ Transitions to $^{18}\text{F}^*(0, 0.94, 1.12, 1.70, 3.13, 3.36)$ are < 1.5 , < 2.0 , < 1.0 , < 1.7 , < 0.9 and $< 1.8\%$.

^j Transitions to $^{18}\text{F}^*(1.04, 1.08, 2.10, 2.52, 3.13, 3.36)$ are < 1.3 , < 1.3 , < 0.8 , < 1.3 , < 0.7 and $< 1.5\%$.

^k Upper limits for branching ratios to other states are 4 to 8%.

^l Upper limits for branching ratios to other states are 1.2 to 2.4%.

^m Upper limits for branching ratios to other states are 8 to 10%.

ⁿ Upper limits for branching ratios to other states are 4 to 6%.

^o Upper limits for transitions to other states are 0.9 to 1.5%.

^p Upper limits for transitions to other states are 10% (for each transition).

^q Upper limits for transitions to other states are 4 to 8%.

^r Upper limits for transitions to other states are 2 to 7%.

^s Upper limits for transitions to other states are 0.4 to 1.5%. $\Gamma_\gamma/\Gamma = 0.55 \pm 0.18$; $\Gamma_\alpha = 10 \pm 4$ meV.

^t Upper limits for branching ratios to other states are 2.2 to 4.2%.

^u Upper limits for transitions to other states are 0.5 to 2.6%.

^v Upper limits for transitions to other states range from 0.3 to 1.5%.

- ^w Upper limits for transitions to other states range from 0.3 to 0.6%.
- ^x Upper limits for transitions to other states range from 5 to 19%.
- ^y Upper limits for transitions to other states are 0.4% (for each transition).
- ^z Upper limits for transitions to other states range from 3 to 8%.
- ^{aa} Upper limits for transitions to other states are 1% (for each transition).
- ^{bb} Upper limits for transitions to other states range from 0.2 to 0.5%.
- ^{cc} (1979KI12).
- ^{dd} Upper limits for transitions to other states are 0.2 to 0.8%.
- ^{ee} Upper limits for transitions to other states range from 0.2 to 1.0%.
- ^{ff} Upper limits for transitions to other states range from 0.4 to 3.0%.
- ^{gg} Upper limits for transitions to other states range from 1 to 4%. This state may correspond to an unresolved doublet.
- ^{hh} Upper limits for transitions to other states range from 0.7 to 1.9%.
- ⁱⁱ Upper limits for transitions to other states range from 0.2 to 0.6%.
- ^{jj} Upper limits for transitions to other states range from 0.7 to 2.5%.
- ^{kk} Upper limits for transitions to other states range from 1.0 to 5%.
- ^{ll} Upper limits for transitions to other states range from 0.7 to 5.2%.
- ^{mm} (1978SE08).
- ⁿⁿ Γ_γ = total radiative width for this state.
- ^{oo} $\Gamma_\alpha = \Gamma \approx 560$ eV, $\Gamma_p < 4.5$ eV.
- ^{pp} (1973RO05).
- ^{qq} (1977BE46).