

Table 20.3 from (1983AJ01): Energy levels of ^{20}F ^a

| E_x (MeV \pm keV) | $J^\pi; T$ | τ | Decay | Reactions |
|-----------------------|---------------|----------------------------------|------------|---|
| 0 | $2^+; 1$ | $\tau_{1/2} = 11.0 \pm 0.02$ sec | β^- | 1, 2, 4, 6, 7, 13, 14, 21, 22, 25, 26, 27, 28, 29 |
| 0.65594 ± 0.15 | 3^+ | $\tau_m = 0.39 \pm 0.03$ psec | γ | 2, 4, 6, 7, 12, 13, 14, 22, 23, 26, 28 |
| 0.82288 ± 0.20 | 4^+ | 79 ± 6 psec | γ | 2, 4, 5, 6, 7, 12, 13, 14, 22, 26, 28 |
| 0.98371 ± 0.20 | 1^- | 2.0 ± 0.2 psec | γ | 2, 4, 6, 7, 12, 13, 14, 22, 26, 28 |
| 1.05693 ± 0.20 | 1^+ | 45 ± 13 fsec | γ | 2, 4, 6, 7, 13, 14, 22, 24, 25, 26, 28 |
| 1.30923 ± 0.20 | 2^- | 1.6 ± 0.3 psec | γ | 6, 7, 12, 13, 14, 22, 25, 26, 28 |
| 1.8244 ± 1.2 | 5^+ | ≤ 65 fsec | γ | 5, 6, 12, 13, 22, 28 |
| 1.84337 ± 0.30 | 2^- | 30 ± 20 fsec | γ | 7, 13, 14, 22, 25, 26, 28 |
| 1.9707 ± 0.4 | (3^-) | | γ | 6, 7, 12, 13, 14, 22, 28 |
| 2.04400 ± 0.30 | 2^+ | 37 ± 16 fsec | γ | 6, 7, 13, 14, 22, 23, 26, 28 |
| 2.1948 ± 0.4 | (3^+) | < 12 fsec | γ | 6, 7, 13, 14, 22, 26, 28 |
| 2.8649 ± 1.5 | (3^-) | | γ | 6, 7, 13, 22, 28 |
| 2.9661 ± 0.4 | 3^+ | 60 ± 40 fsec | γ | 6, 7, 13, 14, 22, 28 |
| 2.968 ± 1.5 | (4^-) | | γ | 5, 6, 7 |
| 3.1740 ± 1.5 | 1^+ | | γ | 6, 7, 13, 22, 28 |
| 3.48843 ± 0.25 | 1^+ | 44 ± 11 fsec | γ | 13, 14, 22, 28 |
| 3.5260 ± 0.4 | 0^+ | 30 ± 15 fsec | γ | 6, 7, 13, 14, 22 |
| 3.5871 ± 0.3 | $(1, 2, 3)^+$ | ≤ 60 fsec | γ | 6, 7, 13, 14, 22, 28 |
| 3.6810 ± 0.4 | $(1, 2, 3)^+$ | | γ | 6, 7, 13, 14, 22, 28 |
| 3.7611 ± 1.9 | $(2^-, 3^+)$ | | γ | 6, 7, 13, 22, 28 |
| 3.9660 ± 1.5 | 1^+ | | γ | 6, 7, 13, 14, 22, 28 |
| 4.0823 ± 0.4 | $(1)^+$ | | γ | 6, 7, 13, 14, 22, 28 |
| 4.1989 ± 2.7 | | | (γ) | 6, 7, 22, 28 |
| 4.2077 ± 2.6 | | | (γ) | 6, 7, 22, 28 |
| 4.2766 ± 0.5 | $(1, 2, 3)^+$ | | γ | 6, 7, 14, 22, 28 |
| 4.3154 ± 2.0 | $(0, 1)^+$ | | (γ) | 6, 7, 22, 28 |
| 4.3745 ± 2.0 | $0^{(-)}$ | | (γ) | 6, 7, 22, 28 |
| 4.5105 ± 2.0 | $(6^+, 4^-)$ | | (γ) | 6, 7, 22, 28 |

Table 20.3 from (1983AJ01): Energy levels of ^{20}F ^a (continued)

| E_x (MeV \pm keV) | $J^\pi; T$ | τ | Decay | Reactions |
|-----------------------|---|--------|--------------|---------------|
| 4.5808 \pm 1.8 | | | (γ) | 6, 7, 22, 28 |
| 4.5922 \pm 2.9 | | | (γ) | 6, 7, 22, 28 |
| 4.7310 \pm 2.0 | (5 ⁺ , 6 ⁺ , 4 ⁻) | | (γ) | 6, 7, 22, 28 |
| 4.7656 \pm 2.0 | (5 ⁺ , 6 ⁺ , 4 ⁻) | | (γ) | 6, 7, 22, 28 |
| 4.8916 \pm 2.8 | | | (γ) | 22, 28 |
| 4.8982 \pm 2.8 | | | (γ) | 22, 28 |
| 5.0402 \pm 3.1 | (0, 1, 2) ⁻ | | (γ) | 7, 22, 28 |
| 5.0655 \pm 3.1 | | | (γ) | 7, 22, 28 |
| 5.135 \pm 4 | | | (γ) | 7, 22, 28 |
| 5.2240 \pm 2.8 | (0, 1, 2) ⁻ | | (γ) | 7, 22, 28 |
| 5.284 \pm 3 | (1, 0) ⁺ | | (γ) | 22, 28 |
| 5.318 \pm 3 | | | (γ) | 7, 22, 28 |
| 5.349 \pm 4 | (1, 2, 3) ⁺ | | (γ) | 7, 22, 28 |
| 5.4131 \pm 0.6 | | | γ | 7, 14, 22, 28 |
| 5.4503 \pm 3.8 | | | (γ) | 22, 28 |
| 5.4554 \pm 3.2 | | | (γ) | 22, 28 |
| 5.463 \pm 3 | (1, 2, 3) ⁺ | | (γ) | 7, 22 |
| 5.5629 \pm 2.0 | (0, 1, 2) ⁻ | | γ | 7, 14, 22, 28 |
| 5.5881 \pm 1.5 | | | (γ) | 7, 22, 28 |
| 5.620 \pm 3 | | | (γ) | 7, 22, 28 |
| 5.713 \pm 2 | | | γ | 14, 22, 28 |
| 5.7640 \pm 2.5 | (1, 2, 3) ⁺ | | (γ) | 7, 22, 28 |
| 5.8104 \pm 2.5 | (2 ⁻ , 1 ⁺) | | (γ) | 7, 22, 28 |
| 5.9361 \pm 0.3 | (1 ⁻ , 2 ⁻) | | γ | 7, 14, 22, 28 |
| 6.0174 \pm 0.3 | (2 ⁻) | | γ | 7, 14, 22, 28 |
| 6.0446 \pm 0.4 | | | γ | 7, 14, 22, 28 |
| 6.163 \pm 6 | | | (γ) | 7, 28 |
| 6.205 \pm 6 | | | (γ) | 7, 28 |
| 6.240 \pm 7 | | | (γ) | 28 |
| 6.300 \pm 5 | | | (γ) | 28 |
| 6.337 \pm 5 | | | (γ) | 28 |
| 6.370 \pm 6 | | | (γ) | 28 |
| 6.407 \pm 12 | | | (γ) | 28 |

Table 20.3 from (1983AJ01): Energy levels of ^{20}F ^a (continued)

| E_x (MeV \pm keV) | $J^\pi; T$ | τ | Decay | Reactions |
|-----------------------|--------------------|-------------------|--------------|------------|
| 6.441 \pm 9 | | | (γ) | 28 |
| 6.480 \pm 5 | | | (γ) | 28 |
| 6.519 \pm 3 | 0 ⁺ ; 2 | | γ | 13, 27 |
| 6.588 \pm 5 | | | (γ) | 28 |
| 6.6269 \pm 0.6 | 2 ⁻ | 0.310 \pm 0.020 | γ , n | 14, 15 |
| 6.6425 \pm 0.6 | (3, 4) | < 0.08 | γ , n | 14, 28 |
| 6.6474 \pm 0.7 | 1 ⁻ | 1.59 \pm 0.10 | γ , n | 14, 15, 28 |
| 6.6933 \pm 0.8 | 1 ⁻ | 13.8 \pm 0.8 | γ , n | 14, 15, 28 |
| 6.7660 \pm 1.1 | | \leq 0.6 | γ , n | 14, 28 |
| 6.829 | | | n | 16 |
| 6.8566 \pm 1.2 | 2 | 10 \pm 2 | γ , n | 14, 16, 28 |
| (6.858 \pm 8) | 1 | | γ , n | 14 |
| 6.905 \pm 8 | | | | 28 |
| 6.9677 \pm 1.2 | 1 ⁻ | 5 \pm 1 | γ , n | 14, 16 |
| (7.0670 \pm 1.2) | 0 ⁻ | (2.4 \pm 0.6) | γ , n | 14, 16 |
| 7.076 | (1 ⁺) | 24 | n | 15 |
| 7.166 \pm 2 | 2 ⁽⁺⁾ | 8 \pm 1 | γ , n | 14, 15, 16 |
| 7.311 | (1) | 33 | γ , n | 14, 15 |
| 7.361 | (1) | 19 | n | 15, 16 |
| 7.410 | (2 ⁺) | 10 | γ , n | 14, 15, 16 |
| 7.50 | (2) | 80 | γ , n | 14, 15 |
| 7.67 | (2 ⁺) | 65 | γ , n | 14, 15, 16 |
| 7.79 | | 140 | n | 15, 16 |
| (7.831 \pm 12) | 1 ⁻ | (50 \pm 10) | γ , n | 14 |
| 7.988 \pm 3 | 1 | 14 \pm 2 | γ , n | 14 |
| 8.05 \pm 100 | 2 ⁺ ; 2 | | | 27 |
| 8.13 | | 195 | γ , n | 14, 15, 16 |
| 8.163 | | 15 | n | 16 |
| 8.421 | | 27 | n | 16 |
| 8.50 | | 140 | n | 15 |
| 8.728 | | \leq 30 | n | 15, 16 |
| 8.77 | | 76 | n | 15 |
| 8.942 | | 73 | n | 15, 16 |

Table 20.3 from (1983AJ01): Energy levels of ^{20}F ^a (continued)

| E_x (MeV \pm keV) | $J^\pi; T$ | τ | Decay | Reactions |
|-----------------------|------------|---------------|-------------|------------|
| 9.165 | | | n | 16 |
| 9.521 | | 110 | n | 16 |
| 9.654 | | 100 | n | 15, 16 |
| 9.830 | | 33 | n | 16 |
| 9.85 | | 120 | n | 15 |
| (9.886 \pm 10) | | | n | 15 |
| 9.901 | | ≤ 30 | n | 16 |
| (9.929 \pm 10) | | | n | 15 |
| (9.981 \pm 10) | | | n | 15 |
| 10.024 \pm 10 | | 150 | n, α | 15, 26, 20 |
| 10.10 \pm 50 | | | n, α | 20 |
| 10.228 \pm 10 | $0^-, 1$ | ≈ 200 | n, α | 15, 20 |
| 10.480 \pm 10 | | ≈ 10 | n, α | 15, 20 |
| 10.641 \pm 10 | 1, 2 | 70 | n | 15, 16 |
| 10.807 \pm 10 | $0^-, 1$ | ≈ 310 | n, α | 15, 20 |
| 10.988 | | 190 | n | 16 |
| (11.045 \pm 10) | | ≈ 30 | n | 15 |
| (11.130 \pm 10) | | < 25 | n | 15 |
| (11.244 \pm 10) | | < 25 | n | 15, 16 |
| (11.287 \pm 10) | | | n | 15 |
| 11.49 \pm 50 | | | n, α | 20 |
| 12.0 | | | n, α | 20 |
| 12.2 \pm 100 | | | n, α | 20 |
| 12.39 | | | n, α | 20 |
| 12.82 | | | n, α | 20 |
| 13.2 | | | n, α | 20 |
| 13.66 | | | n, α | 16, 20 |
| 14.0 | | | n, α | 20 |

^a See also [Tables 20.4](#) and [20.5](#).