

Table 20.6 from (1959AJ76): Energy levels of ^{20}Ne

| E_x (MeV \pm keV) | $J^\pi; T$ | τ_m or Γ (keV) | Decay | Reactions |
|--------------------------|--------------|----------------------------------------------|----------------------|---------------------------|
| 0 | $0^+; 0$ | — | stable | 1, 9, 13, 20, 21, 22, 25 |
| 1.632 ± 4 | $2^+; 0$ | $\tau_m = (7.6 \pm 3.3) \times 10^{-13}$ sec | γ | 9, 13, 16, 20, 21, 22, 25 |
| 4.248 ± 6 | $; 0$ | | γ | 13, 20, 22, 25 |
| 4.969 ± 6 | $\geq 1; 0$ | | γ | 9, 20, 22, 25 |
| 5.631 ± 6 | $; 0$ | | | 13, 20, 22, 25 |
| 6.745 ± 10 | $0^+; 0$ | | 19 | α |
| 7.189 ± 10 | $3^-; 0$ | 8 | α | 6, 13, 22 |
| 7.225 ± 10 | $0^+; 0$ | 4 | α | 6, 13, 20 |
| 7.457 ± 10 | $2^+; 0$ | 8 | α | 6, 20 |
| 7.861 ± 10 | $2^+; 0$ | 2 | α | 6, 13, 20 |
| ≈ 8.6 | $0^+; 0$ | ≈ 1300 | α | 6 |
| 8.76 | $1^-; 0$ | 4 | α | 6 |
| ≈ 8.8 | $2^+; 0$ | ≈ 1200 | α | 6 |
| 8.84 | $(5^-); 0$ | ≤ 4 | α | 6 |
| 8.91 | $1^-; 0$ | 20 | α | 6 |
| 9.11 | $4^+; 0$ | 8 | α | 6, 13, 20 |
| 9.34 ± 100 | $(\leq 2^-)$ | | γ | 13, 20 |
| 9.97 ± 100 | $; (1)$ | | $(\gamma), (\alpha)$ | 13, 20 |
| (10.61 ± 100) | $; (1)$ | | (γ) | 13 |
| 11.11 | | | γ | 13 |
| 11.19 | | | γ | 13 |
| 11.33 | | | γ | 13 |
| 11.42 | | | γ | 13 |
| 11.69 | | | γ | 13 |
| 11.87 | $; (1)$ | | $(\gamma), \alpha$ | 13 |
| 12.27 | | | γ | 13 |
| 12.51 | | | γ | 13 |
| 13.086 ± 8 | | 1.0 | p, α | 11 |
| 13.196 ± 8 | 1^+ | 3.1 ± 0.2 | p, α | 11 |
| 13.253 | 1^- | 100 | p, α | 11 |

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|--------------------------|------------|-------------------------------|------------------------|-----------|
| 13.253 | 0^+ | 100 | p, α | 11 |
| 13.332 \pm 8 | | 0.9 | p, α | 11 |
| 13.440 \pm 8 | (2^-) | 28 \pm 3 | p, α | 11 |
| 13.491 | 1^- | 190 | p, α | 11 |
| 13.511 \pm 8 | 1^+ | 5.8 \pm 0.7 | p, α , γ | 9, 10, 11 |
| 13.548 \pm 10 | 1^- | 33 | p, α | 11 |
| 13.569 \pm 10 | 2^+ | 63 | p, α | 11 |
| 13.613 \pm 10 | 2^+ | \approx 10 | p, α | 10, 11 |
| 13.667 \pm 8 | | 6.2 \pm 1 | p, α | 10, 11 |
| 13.673 \pm 10 | $0^+, 2^+$ | 20 | p, α | 10, 11 |
| 13.690 \pm 10 | 1^- | 110 | p, α | 11 |
| 13.703 \pm 8 | 2^- | 5.1 \pm 0.3 | p, α , γ | 9, 10, 11 |
| 13.730 \pm 8 | | 4.8 \pm 1 | p, α | 10, 11 |
| 13.757 \pm 10 | 0^+ | \approx 170 | p, α | 11 |
| 13.761 \pm 8 | 1^+ | 8.2 \pm 0.5 | p, α , γ | 9, 10, 11 |
| 13.80 | | | p, γ | 9 |
| 13.899 \pm 10 | 1^- | \approx 200 | p, α | 11 |
| 13.909 \pm 8 | | 0.7 \pm 0.3 | p, α , γ | 9, 10, 11 |
| 13.932 \pm 10 | 2^+ | 45 | p, α | 11 |
| 13.956 \pm 8 | | 3 | p, α | 10, 11 |
| 13.975 \pm 10 | 0^+ | \approx 70 | p, α | 11 |
| 14.003 \pm 8 | | 100 \pm 20 | p, α | 11 |
| 14.046 \pm 10 | 1^- | \approx 60 | p, α | 11 |
| 14.061 \pm 10 | 2^+ | \approx 100 | p, α | 10, 11 |
| 14.092 \pm 8 | (3^+) | 17.5 \pm 1 | p, α , γ | 9, 10, 11 |
| 14.13 | | 3.8 | p, γ | 9 |
| 14.154 \pm 8 | 2^- | 5.2 \pm 0.5 | p, α , γ | 9, 10, 11 |
| 14.167 \pm 10 | 2^+ | 40 | p, α | 11 |
| 14.179 \pm 8 | 2^- | 10.5 \pm 1 | p, α , γ | 9, 10, 11 |
| 14.224 \pm 10 | 1^+ | 14 \pm 1 | p, γ | 9, 10 |

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| E_x (MeV \pm keV) | $J^\pi; T$ | τ_m or Γ (keV) | Decay | Reactions |
|--------------------------|---------------------------------|-------------------------------|-------------|-----------|
| 14.380 \pm 8 | | 5.7 \pm 1 | p, α | 10, 11 |
| 14.436 \pm 60 | | 55 | p, α | 10, 11 |
| 14.482 \pm 8 | | 33 \pm 3 | p, α | 10, 11 |
| 14.497 \pm 10 | 0 ⁺ | 130 \pm 5 | p, α | 11 |
| 14.633 \pm 10 | 1 ⁻ | 125 \pm 5 | p, α | 11 |
| 14.725 \pm 8 | 0 ⁺ , 1 ⁺ | 38 \pm 10 | p, α | 10, 11 |
| 14.802 \pm 8 | | 110 \pm 20 | p, α | 11 |
| 14.91 | (4 ⁺) | 70 \pm 25 | p, α | 11 |
| 15.07 | (2 ⁺) | 75 \pm 25 | p, α | 11 |
| 15.08 | | 80 | p, α | 11 |
| 15.26 | | 27 | p, α | 11 |
| 15.34 | (0 ⁺) | 285 \pm 25 | p, α | 11 |
| 15.37 | | 85 | p, α | 11 |
| 15.42 | | 75 | p, α | 11 |
| 15.53 | | 55 | p, α | 11 |
| 15.55 | | 120 | p, α | 11 |
| 15.67 | | | p, α | 11 |
| 15.74 | | 28 | p, α | 11 |
| 15.84 | | 150 | p, α | 11 |
| 15.90 | | 78 | p, α | 11 |
| 16.05 | | 100 | p, α | 11 |
| 16.19 | | 38 | p, α | 11 |
| (16.20) | | (75) | p, α | 11 |
| (16.28) | | (110) | p, α | 11 |
| 16.37 | | (100) | p, α | 11 |
| 16.54 | | | p, α | 11 |
| 16.60 | | 28 | p, α | 11 |
| 16.61 | | 190 | p, α | 11 |
| 16.65 | | 130 | p, α | 11 |
| 16.67 | | 105 | p, α | 11 |

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| E_x (MeV \pm keV) | $J^\pi; T$ | τ_m or Γ (keV) | Decay | Reactions |
|--------------------------|------------|-------------------------------|-----------------|-----------|
| 16.80 | | 95 | p, α | 11 |
| 16.95 | | 45 | p, α , n | 11, 12 |
| 17.02 | | 95 | p, α | 11 |
| 17.11 | | 85 | p, α , n | 11, 12 |
| 17.14 | | 25 | p, α , n | 11, 12 |
| 17.22 | | 25 | p, α , n | 11, 12 |
| 17.26 | | 57 | p, n | 12 |
| 17.33 | | 60 | p, α | 11 |
| 17.35 | | 25 | p, α , n | 11, 12 |
| 17.41 | | 35 | p, α , n | 11, 12 |
| 17.53 | | 85 | p, α | 11 |
| 17.61 | | 35 | p, α | 11 |
| 17.61 | | 19 | p, α , n | 11, 12 |
| 17.69 | | 30 | p, α , n | 11, 12 |
| 17.79 | | 210 | p, α | 11 |
| 17.81 | | 67 | p, α | 11 |
| 17.86 | | 67 | p, n | 11, 12 |
| 18.01 | | | p, n | 12 |
| 18.34 | | | p, n | 12 |
| 18.66 | | | p, n | 12 |
| 19.02 | | | p, n | 12 |