

^{25}Na β^- decay 1982AI27,1971AI10

| Type | Author | History Citation | Literature Cutoff Date |
|-----------------|-----------------|----------------------|------------------------|
| Full Evaluation | R. B. Firestone | NDS 110, 1691 (2009) | 1-Feb-2008 |

Parent: ^{25}Na : $E=0.0$; $J^\pi=5/2^+$; $T_{1/2}=59.1$ s 6; $Q(\beta^-)=3835.0$ 12; $\% \beta^-$ decay=100.0

Source produced by $^{24}\text{Mg}(t,p)$ $E=3.2$ MeV.

Other reference: 1970Jo06.

 ^{25}Mg Levels

| E(level) [†] | J^π [‡] | $T_{1/2}$ |
|-----------------------|----------------------|-----------|
| 0 | 5/2 ⁺ | stable |
| 585.042 21 | 1/2 ⁺ | |
| 974.749 24 | 3/2 ⁺ | |
| 1611.772 11 | 7/2 ⁺ | |
| 1964.620 24 | 5/2 ⁺ | |
| 2801.46 3 | 3/2 ⁺ | |

[†] Least-square fit to γ -ray energies.

[‡] From Adopted Levels, Gammas.

 β^- radiations

| E(decay) | E(level) | $I\beta^-$ [†] | Log ft | Comments |
|-----------------------------|----------|-------------------------|----------|------------------------|
| (1033.5 12) | 2801.46 | 0.247 4 | 5.25 | av $E\beta^- = 395$ 3 |
| (1870.4 12) | 1964.620 | 0.440 7 | 6.04 | av $E\beta^- = 774$ 3 |
| (2223.2 12) | 1611.772 | 9.48 14 | 5.03 | av $E\beta^- = 939$ 3 |
| (2860.3 12) | 974.749 | 27.46 22 | 5.04 | av $E\beta^- = 1243$ 3 |
| (3835.0 12) | 0 | 62.5 20 | 5.26 | av $E\beta^- = 1714$ 3 |
| $I\beta^-$: From 1971AI10. | | | | |

[†] Absolute intensity per 100 decays.

 $\gamma(^{25}\text{Mg})$

| E_γ | I_γ [†] | $E_i(\text{level})$ | J_i^π | E_f | J_f^π | Mult. | δ |
|-------------|-------------------------|---------------------|------------------|----------|------------------|---------|-------------|
| 389.710 35 | 97.5 17 | 974.749 | 3/2 ⁺ | 585.042 | 1/2 ⁺ | M1+E2 | +0.13 3 |
| 585.028 30 | 100.0 14 | 585.042 | 1/2 ⁺ | 0 | 5/2 ⁺ | E2(+M3) | ≈ 0 |
| 836.841 50 | 0.800 20 | 2801.46 | 3/2 ⁺ | 1964.620 | 5/2 ⁺ | M1(+E2) | -0.03 3 |
| 974.742 35 | 115.0 17 | 974.749 | 3/2 ⁺ | 0 | 5/2 ⁺ | M1+E2 | +0.36 2 |
| 989.865 30 | 1.280 24 | 1964.620 | 5/2 ⁺ | 974.749 | 3/2 ⁺ | M1+E2 | -0.25 2 |
| 1379.543 30 | 1.78 4 | 1964.620 | 5/2 ⁺ | 585.042 | 1/2 ⁺ | E2(+M3) | ≈ 0 |
| 1611.716 11 | 72.9 11 | 1611.772 | 7/2 ⁺ | 0 | 5/2 ⁺ | M1+E2 | -0.189 12 |
| 1964.501 45 | 1.128 17 | 1964.620 | 5/2 ⁺ | 0 | 5/2 ⁺ | M1+E2 | -0.60 10 |
| 2216.267 50 | 0.719 16 | 2801.46 | 3/2 ⁺ | 585.042 | 1/2 ⁺ | | |
| 2801.312 35 | 0.380 12 | 2801.46 | 3/2 ⁺ | 0 | 5/2 ⁺ | M1+E2 | -0.64 8 |

[†] For absolute intensity per 100 decays, multiply by 0.130 7.

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Decay Scheme

Intensities: I_γ per 100 parent decays

Legend

