

¹²⁶La ε decay (54 s+50 s) 2002Ko02

| Type | Author | History | Citation | Literature Cutoff Date |
|-----------------|---------------------------------|---------|-------------------|------------------------|
| Full Evaluation | H. Iimura, J. Katakura, S. Ohya | | NDS 180, 1 (2022) | 1-Oct-2021 |

Parent: ¹²⁶La: E=0.0+v; J^π=(4,5); T_{1/2}=54 s 2; Q(ε)=7700 90; %ε+%β⁺ decay=100.0

Parent: ¹²⁶La: E=0.0+w; J^π=(0⁻,1,2⁻); T_{1/2}<50 s; Q(ε)=7700 90; %ε+%β⁺ decay=100.0

¹²⁶La(0.0+w)-E: w=210 410 from Q(β⁻) (1998Ko06).

2002Ko02, 2001As02, 2000ShZV, 1998Ko06, 1997As07, 1997As05, 1996AsZZ: ⁹⁴Mo(³⁶Ar,3pn) E=195 MeV, enriched target 93.9

%, on-line mass separation; Eγ, Eβ, βγ, γγ, γγ(θ), ce.

1997TaZS: source from ¹¹⁶Sn(¹⁴N,4n) E=68 MeV; enriched target 98 %; no chem; γ, β, βγ, γγ.

1992Mo13: Source from Mo(³⁵Cl,2pxn); βγ coin. measure T_{1/2}.

1963Ch27:¹¹⁵In(¹⁶O,5n) E=94 MeV, ¹²¹Sb(¹²C,7n) E=117 MeV chem; Eγ, γγ.

Others: 1961Sh17, 1963Pr02.

¹²⁶Ba Levels

| E(level) | J ^π † | T _{1/2} | Comments |
|------------|----------------------------------|------------------|--|
| 0.0 | 0 ⁺ | 100 min 2 | |
| 255.96 6 | 2 ⁺ | 141 ps 14 | T _{1/2} : from 1992Mo13; Other: 108 ps 4 (1990OsZY). 1990OsZY is earlier paper of 1992Mo13. |
| 711.03 7 | 4 ⁺ ‡ | | |
| 873.55 7 | 2 ⁺ ‡ | | |
| 983.41 10 | 0 ⁺ ‡ | | |
| 1236.20 7 | 3 ⁺ ‡ | | |
| 1295.96 7 | 2 ⁽⁺⁾ ‡ | | |
| 1332.46 9 | 6 ⁺ ‡ | | |
| 1345.39 8 | 4 ⁺ ‡ | | |
| 1717.55 10 | 2 ⁺ | | |
| 1742.54 8 | 3 ⁻ ‡ | | |
| 1753.80 15 | 2 ⁺ ,3,4 ⁺ | | |
| 1807.90 14 | 5 ⁺ | | |
| 1810.11 19 | 2 ⁺ ,3,4 ⁺ | | |
| 1876.68 9 | | | |
| 1890.20 12 | 6 ⁽⁺⁾ | | |
| 1936.26 9 | 1,3‡ | | |
| 1938.84 9 | 5 ⁻ ‡ | | |
| 2018.26 11 | 2 ⁺ ,3,4 ⁺ | | |
| 2029.78 12 | 0 ⁽⁺⁾ ‡ | | |
| 2056.02 9 | 4 ⁻ ‡ | | |
| 2100.28 20 | | | |
| 2103.43 12 | | | |
| 2117.19 19 | | | |
| 2179.10 10 | 2 ⁺ ,3,4 ⁺ | | |
| 2247.55 11 | 3 ⁻ ,5 ⁻ ‡ | | |
| 2255.12 12 | 5 | | |
| 2303.2 4 | 7 ⁻ | | |
| 2378.84 12 | | | |
| 2385.94 12 | | | |
| 2399.0 4 | 2 ⁺ ,3,4 ⁺ | | |
| 2407.93 21 | 6 ⁽⁻⁾ | | |
| 2459.11 11 | | | |
| 2499.13 9 | 3 ⁻ ,4 ⁺ | | |
| 2512.26 11 | 4 ⁺ ,5,6 ⁺ | | |

Continued on next page (footnotes at end of table)

^{126}La ε decay (54 s+50 s) [2002Ko02](#) (continued) ^{126}Ba Levels (continued)

| <u>E(level)</u> | <u>J^π[†]</u> | <u>E(level)</u> | <u>J^π[†]</u> | <u>E(level)</u> | <u>J^π[†]</u> | <u>E(level)</u> | <u>J^π[†]</u> |
|-----------------|---------------------------------------|-----------------|---------------------------------------|-----------------|---------------------------------------|-----------------|---------------------------------------|
| 2566.31 13 | 4 ⁽⁺⁾ ,5,6 ⁺ | 2684.31 9 | (4) | 2872.06 12 | 2,3,4 | 3402.9 5 | 2 ⁺ ,3,4 ⁺ |
| 2576.77 10 | 3,4 | 2716.21 11 | 4 ⁺ ,5,6 ⁺ | 2953.67 9 | 2 ⁺ ,3,4 ⁺ | 3484.7 7 | 2 ⁺ ,3,4 ⁺ |
| 2605.52 10 | | 2732.55 10 | 3 ⁻ ,4,5 ⁺ | 3107.9 4 | 2 ⁺ ,3,4 ⁺ | 3703.70 18 | 2 ⁺ ,3,4 ⁺ |
| 2657.39 12 | 2 ⁺ ,3,4 ⁺ | 2748.57 10 | 4 ⁽⁺⁾ ,5,6 ⁺ | 3185.6 3 | 2 ⁺ ,3,4 ⁺ | 3758.7 4 | |

[†] From Adopted Levels except where noted otherwise.

[‡] From $\gamma\gamma(\theta)$ and $\alpha(K)\text{exp}$ in [2002Ko02](#).

γ(¹²⁶Ba)

α(K)exp: Normalization is made assuming a theoretical E2 value of 0.0605 for the 255.9K.

A₂ and A₄ values from directional correlation experiment (2002Ko02)

| initial | cascade | spin sequence | A ₂ | A ₄ |
|---------|-------------------|-------------------|----------------|----------------|
| 711 | 455-256 | 4 - 2 - 0 | +0.094 3 | -0.006 5 |
| 874 | 618-256 | 2 - 2 - 0 | -0.120 10 | +0.341 18 |
| 983 | 727-256 | 0 - 2 - 0 | +0.33 3 | +1.21 6 |
| 1236 | 980-256 | 3 - 2 - 0 | -0.055 10 | -0.100 18 |
| 1236 | 525-(455)-256 | 3 - 4 - 2 - 0 | -0.16 4 | -0.01 8 |
| 1296 | 1040-256 | 2 - 2 - 0 | -0.32 4 | +0.27 6 |
| 1332 | 621-(455)-256 | 6 - 4 - 2 - 0 | +0.103 11 | +0.041 20 |
| 1345 | 634-(455)-256 | 4 - 4 - 2 - 0 | -0.151 14 | +0.100 24 |
| 1742 | 1031-(455)-256 | 3 - 4 - 2 - 0 | -0.140 16 | +0.02 3 |
| 1742 | 1487-256 | 3 - 2 - 0 | -0.066 10 | -0.007 17 |
| 1877 | 1621-256 | | +0.28 6 | +0.07 11 |
| 1936 | 1680-256 | (1,3) - 2 - 0 | -0.41 7 | -0.01 11 |
| 1939 | 1228-455 | 5 - 4 - 2 | -0.080 11 | +0.020 20 |
| 1939 | 606-(621-455)-256 | 5 - 6 - 4 - 2 - 0 | -0.12 3 | -0.05 5 |
| 2030 | 1774-256 | 0 - 2 - 0 | +0.30 3 | +1.06 6 |
| 2056 | 313-1487 | 4 - 3 - 2 | +0.323 21 | +0.08 4 |
| 2056 | 1345-(455)-256 | 4 - 4 - 2 - 0 | +0.224 16 | -0.01 3 |
| 2247 | 1537-(455)-256 | (3,5) - 4 - 2 - 0 | -0.114 25 | +0.01 4 |
| 2459 | 520-1228 | | -0.14 3 | +0.05 5 |
| 2499 | 1263-(980)-256 | | +0.08 5 | +0.21 9 |
| 2512 | 1801-(455)-256 | | -0.07 3 | -0.07 6 |
| 2657 | 2401-256 | | -0.02 4 | -0.00 6 |
| 2716 | 2005-(455)-256 | | -0.101 20 | -0.04 3 |

| E _γ [†] | I _γ | E _i (level) | J _i ^π | E _f | J _f ^π | Mult. ^a | δ ^a | α ^c | Comments |
|-----------------------------|----------------------|------------------------|-----------------------------|----------------|-----------------------------|--------------------|----------------|----------------|--|
| 117.0 [‡] 5 | 0.22 [#] 4 | 2056.02 | 4 ⁻ | 1938.84 | 5 ⁻ | | | | |
| 255.93 9 | 100 | 255.96 | 2 ⁺ | 0.0 | 0 ⁺ | E2 | | 0.0755 | α(K)=0.0605 9; α(L)=0.01189 17; α(M)=0.00252 4 α(N)=0.000532 8; α(O)=7.57×10 ⁻⁵ 11; α(P)=3.35×10 ⁻⁶ 5 |
| 312.5 [‡] 1 | 0.68 [#] 11 | 1295.96 | 2 ⁽⁺⁾ | 983.41 | 0 ⁺ | | | | α(K)exp=0.0250 23 for 312.5K+313.3K. |
| 313.3 [‡] 1 | 4.2 [#] 4 | 2056.02 | 4 ⁻ | 1742.54 | 3 ⁻ | M1+E2 | -2.0 +9-13 | 0.0402 12 | α(K)=0.0332 14; α(L)=0.00555 24; α(M)=0.00117 6 |

¹²⁶La ε decay (54 s+50 s) 2002Ko02 (continued)

γ(¹²⁶Ba) (continued)

| <u>E_γ[†]</u> | <u>I_γ</u> | <u>E_i(level)</u> | <u>J_i^π</u> | <u>E_f</u> | <u>J_f^π</u> | <u>Mult.^a</u> | <u>δ^a</u> | <u>α^c</u> | <u>Comments</u> |
|-----------------------------------|-----------------------|-----------------------------|----------------------------------|----------------------|----------------------------------|--------------------------|----------------------|----------------------|--|
| | | | | | | | | | α(N)=0.000248 11; α(O)=3.61×10 ⁻⁵ 11; α(P)=1.95×10 ⁻⁶ 16 α(K)exp=0.0250 23 for 312.5K+313.3K. δ: from γ(θ) in (HI,xny), other: -0.8 +1-11 or -1.7 +10-2 (2002Ko02). |
| 316.4 3 | 0.124 10 | 2255.12 | 5 | 1938.84 | 5 ⁻ | | | | |
| 346.5 5 | <0.09 [#] | 2100.28 | | 1753.80 | 2 ⁺ ,3,4 ⁺ | | | | |
| 351.9 2 | 0.214 10 | 2407.93 | 6 ⁽⁻⁾ | 2056.02 | 4 ⁻ | Q ^b | | | |
| 362.7 1 | 1.33 3 | 1236.20 | 3 ⁺ | 873.55 | 2 ⁺ | E2(+M1) | | 0.0273 24 | α(K)=0.0231 25; α(L)=0.00339 9; α(M)=0.000704 25 α(N)=0.000151 5; α(O)=2.25×10 ⁻⁵ 4; α(P)=1.43×10 ⁻⁶ 23 α(K)exp=0.0143 26. |
| 397.0 [‡] 5 | <0.02 [#] | 1742.54 | 3 ⁻ | 1345.39 | 4 ⁺ | | | | |
| 408.4 5 | 0.18 [#] 8 | 1753.80 | 2 ⁺ ,3,4 ⁺ | 1345.39 | 4 ⁺ | | | | |
| 422.4 5 | 0.35 [#] 9 | 1295.96 | 2 ⁽⁺⁾ | 873.55 | 2 ⁺ | | | | |
| 455.0 1 | 56.8 [#] 8 | 711.03 | 4 ⁺ | 255.96 | 2 ⁺ | E2 | | 0.01283 | α(K)=0.01074 15; α(L)=0.001663 24; α(M)=0.000347 5 α(N)=7.40×10 ⁻⁵ 11; α(O)=1.092×10 ⁻⁵ 16; α(P)=6.40×10 ⁻⁷ 9 α(K)exp=0.01024 17. |
| 457.8 [‡] 3 | 0.48 [#] 10 | 1753.80 | 2 ⁺ ,3,4 ⁺ | 1295.96 | 2 ⁽⁺⁾ | | | | |
| 462.5 [‡] 3 | 0.088 [#] 16 | 1807.90 | 5 ⁺ | 1345.39 | 4 ⁺ | | | | |
| 469.2 [‡] 5 | 0.23 [#] 7 | 2407.93 | 6 ⁽⁻⁾ | 1938.84 | 5 ⁻ | | | | |
| 471.8 1 | 3.73 7 | 1345.39 | 4 ⁺ | 873.55 | 2 ⁺ | E2 | | 0.01158 | α(K)=0.00971 14; α(L)=0.001487 21; α(M)=0.000310 5 α(N)=6.62×10 ⁻⁵ 10; α(O)=9.78×10 ⁻⁶ 14; α(P)=5.81×10 ⁻⁷ 9 α(K)exp=0.0096 9. |
| 475.3 5 | 0.089 12 | 1807.90 | 5 ⁺ | 1332.46 | 6 ⁺ | | | | |
| 505.1 [‡] 2 | 1.9 3 | 2247.55 | 3 ⁻ ,5 ⁻ | 1742.54 | 3 ⁻ | E2(+M1) | | 0.0112 17 | α(K)=0.0096 15; α(L)=0.00132 11; α(M)=0.000272 21 α(N)=5.8×10 ⁻⁵ 5; α(O)=8.8×10 ⁻⁶ 9; α(P)=6.0×10 ⁻⁷ 12 α(K)exp=0.0063 11. |
| 517.6 [‡] 2 | 0.25 [#] 7 | 1753.80 | 2 ⁺ ,3,4 ⁺ | 1236.20 | 3 ⁺ | | | | |
| 520.3 [‡] 2 | 2.1 [#] 4 | 2459.11 | | 1938.84 | 5 ⁻ | | | | α(K)exp=0.0082 15 for 520.3K+520.7K. |
| 520.7 [‡] 3 | 0.19 [#] 5 | 2576.77 | 3,4 | 2056.02 | 4 ⁻ | | | | α(K)exp=0.0082 15 for 520.3K+520.7K. |
| 525.2 1 | 1.053 23 | 1236.20 | 3 ⁺ | 711.03 | 4 ⁺ | M1+E2 | -1.7 2 | 0.0095 2 | α=0.0095 2; α(K)=0.0080 2; α(L)=0.00114 1 α(K)exp=0.0060 23. δ: from γ(θ) in (HI,xny), other: +0.04 12 or +5 +100-3 (2002Ko02). |
| 544.8 1 | 0.70 [#] 20 | 1890.20 | 6 ⁽⁺⁾ | 1345.39 | 4 ⁺ | Q ^b | | 0.00788 | α=0.00788; α(K)=0.00659 20; α(L)=0.00097 3 α(K)exp<0.0058. Authors assigned multipolarity of E2, but this assignment is not consistent with α(K)(E2)=0.00659. |
| ^x 554.3 [‡] 5 | 0.15 [#] 7 | | | | | | | | |

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¹²⁶La ϵ decay (54 s+50 s) 2002Ko02 (continued)

$\gamma(^{126}\text{Ba})$ (continued)

| E_γ † | I_γ | $E_i(\text{level})$ | J_i^π | E_f | J_f^π | Mult. ^a | δ^a | α^c | Comments |
|------------------------|------------|---------------------|-----------|---------|-----------|----------------------|------------|------------|---|
| 557.8 † 5 | 0.22# 5 | 1890.20 | 6(+) | 1332.46 | 6+ | (M1+E2) ^b | +2.8 +24-9 | | δ : from (HI,xn γ). |
| 560.2 † 3 | 0.10# 5 | 2499.13 | 3-,4+ | 1938.84 | 5- | | | | |
| 571.7 2 | 1.10# 11 | 1807.90 | 5+ | 1236.20 | 3+ | Q ^b | | | $\alpha(\text{K})\text{exp}=0.0131$ 18 for 571.7K+573.5K+573.7K. |
| 573.5 † 5 | 0.55# 9 | 2512.26 | 4+,5,6+ | 1938.84 | 5- | | | | $\alpha(\text{K})\text{exp}=0.0131$ 18 for 571.7K+573.5K+573.7K. |
| 573.7 † 5 | 0.82# 11 | 1810.11 | 2+,3,4+ | 1236.20 | 3+ | | | | $\alpha(\text{K})\text{exp}=0.0131$ 18 for 571.7K+573.5K+573.7K. |
| 584.9 † 2 | 0.43# 10 | 1295.96 | 2(+) | 711.03 | 4+ | (E2) | | 0.00653 | $\alpha=0.00653$; $\alpha(\text{K})=0.00548$ 17; $\alpha(\text{L})=0.00079$ 2 |
| 606.4 1 | 1.83 4 | 1938.84 | 5- | 1332.46 | 6+ | E1 | | 0.00212 | $\alpha=0.00212$; $\alpha(\text{K})=0.00182$ 6; $\alpha(\text{L})=0.00023$ 1 |
| 617.5 1 | 7.20 10 | 873.55 | 2+ | 255.96 | 2+ | M1+E2 | +5 +2-1 | 0.00577 5 | $\alpha(\text{K})\text{exp}<0.0017$. $\alpha=0.00577$ 5; $\alpha(\text{K})=0.00485$ 5; $\alpha(\text{L})=0.00069$ |
| | | | | | | | | | $\alpha(\text{K})\text{exp}=0.00431$ 12. |
| | | | | | | | | | δ : from $\gamma(\theta)$ in (HI,xn γ), other: +18 +10-5 in ϵ decay (2002Ko02). |
| 621.4 1 | 5.63 9 | 1332.46 | 6+ | 711.03 | 4+ | E2 | | 0.00559 | $\alpha=0.00559$; $\alpha(\text{K})=0.00470$ 14; $\alpha(\text{L})=0.00067$ 2 |
| | | | | | | | | | $\alpha(\text{K})\text{exp}=0.00462$ 13. |
| 627.7 † 5 | 0.57# 12 | 2566.31 | 4(+),5,6+ | 1938.84 | 5- | | | | $\alpha(\text{K})\text{exp}=0.0075$ 11 for 627.7K+628.2K. |
| 628.2 † 1 | 1.8# 3 | 2684.31 | (4) | 2056.02 | 4- | | | | $\alpha(\text{K})\text{exp}=0.0075$ 11 for 627.7K+628.2K. |
| ^x 631.5 5 | 0.123 21 | | | | | | | | |
| 634.3 1 | 4.58 7 | 1345.39 | 4+ | 711.03 | 4+ | M1+E2 | +1.4 +80-3 | 0.0060 7 | $\alpha=0.0060$ 7; $\alpha(\text{K})=0.0051$ 7; $\alpha(\text{L})=0.00069$ 6 |
| | | | | | | | | | $\alpha(\text{K})\text{exp}=0.00457$ 25. |
| ^x 637.2 † 5 | 0.21# 9 | | | | | | | | |
| 640.5 1 | 0.382 14 | 1876.68 | | 1236.20 | 3+ | | | | |
| 672.8 3 | 0.062 10 | 2018.26 | 2+,3,4+ | 1345.39 | 4+ | | | | |
| 676.3 † 5 | 0.41# 9 | 2566.31 | 4(+),5,6+ | 1890.20 | 6(+) | | | | |
| 676.4 † 5 | 0.50# 9 | 2732.55 | 3-,4,5+ | 2056.02 | 4- | | | | |
| 700.0 † 3 | 0.48# 14 | 1936.26 | 1,3 | 1236.20 | 3+ | | | | |
| 727.4 1 | 2.37 4 | 983.41 | 0+ | 255.96 | 2+ | E2 | | 0.00378 | $\alpha=0.00378$; $\alpha(\text{K})=0.00319$ 10; $\alpha(\text{L})=0.00044$ 1 |
| | | | | | | | | | $\alpha(\text{K})\text{exp}=0.0039$ 24. |
| 745.5 1 | 0.26# 6 | 2684.31 | (4) | 1938.84 | 5- | | | | |
| 756.6 † 3 | 1.02# 21 | 2499.13 | 3-,4+ | 1742.54 | 3- | | | | |
| 757.9 † 5 | 0.22# 5 | 2103.43 | | 1345.39 | 4+ | | | | |
| 771.8 2 | 0.380 12 | 2117.19 | | 1345.39 | 4+ | | | | |
| 774.6 5 | 0.192 7 | 2953.67 | 2+,3,4+ | 2179.10 | 2+,3,4+ | | | | |
| 793.7 1 | 0.312 17 | 2732.55 | 3-,4,5+ | 1938.84 | 5- | | | | |
| 809.7 1 | 0.569# 13 | 2748.57 | 4(+),5,6+ | 1938.84 | 5- | | | | |
| 820.0 2 | 0.340 14 | 2056.02 | 4- | 1236.20 | 3+ | | | | |
| 834.2 1 | 0.359 16 | 2576.77 | 3,4 | 1742.54 | 3- | | | | |
| 858.3 3 | 0.422 17 | 2748.57 | 4(+),5,6+ | 1890.20 | 6(+) | | | | |
| 873.5 1 | 4.60 10 | 873.55 | 2+ | 0.0 | 0+ | E2 | | 0.00246 | $\alpha=0.00246$; $\alpha(\text{K})=0.00209$ 7; $\alpha(\text{L})=0.00028$ 1 |
| | | | | | | | | | $\alpha(\text{K})\text{exp}=0.0020$ 12. |

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¹²⁶La ε decay (54 s+50 s) 2002Ko02 (continued)

γ(¹²⁶Ba) (continued)

| E _γ [†] | I _γ | E _i (level) | J _i ^π | E _f | J _f ^π | Mult. ^a | δ ^a | α ^c | Comments |
|------------------------------------|-----------------------|------------------------|----------------------------------|----------------|-----------------------------|--------------------|----------------|----------------|--|
| 876.3 [‡] 5 | 0.21 4 | 2684.31 | (4) | 1807.90 | 5 ⁺ | | | | |
| 880.3 [‡] 5 | 1.18 [#] 14 | 1753.80 | 2 ⁺ ,3,4 ⁺ | 873.55 | 2 ⁺ | | | | |
| 880.8 [‡] 5 | 0.57 [#] 8 | 2117.19 | | 1236.20 | 3 ⁺ | | | | |
| 902.1 2 | 0.264 20 | 2247.55 | 3 ⁻ ,5 ⁻ | 1345.39 | 4 ⁺ | | | | |
| 909.7 1 | 0.97 6 | 2255.12 | 5 | 1345.39 | 4 ⁺ | D ^b | | | |
| 922.8 [‡] 5 | 0.059 [#] 16 | 2255.12 | 5 | 1332.46 | 6 ⁺ | | | | |
| 936.6 [‡] 5 | 0.127 [#] 23 | 1810.11 | 2 ⁺ ,3,4 ⁺ | 873.55 | 2 ⁺ | | | | |
| 941.8 2 | 0.223 9 | 2684.31 | (4) | 1742.54 | 3 ⁻ | | | | |
| 970.7 3 | 0.16 5 | 2303.2 | 7 ⁻ | 1332.46 | 6 ⁺ | E1 ^b | | | |
| 980.2 1 | 8.75 12 | 1236.20 | 3 ⁺ | 255.96 | 2 ⁺ | M1+E2 | +5.5 +11-9 | 0.00193 1 | α=0.00193 1; α(K)=0.00164 1; α(L)=0.00022 α(K)exp=0.0023 6. |
| 1003.1 1 | 0.600 16 | 1876.68 | | 873.55 | 2 ⁺ | | | | |
| 1006.6 1 | 0.218 9 | 1717.55 | 2 ⁺ | 711.03 | 4 ⁺ | | | | |
| 1031.4 1 | 5.11 8 | 1742.54 | 3 ⁻ | 711.03 | 4 ⁺ | E1 | | 0.00072 | α=0.00072; α(K)=0.00062 2 α(K)exp<0.0006. |
| 1040.0 1 | 1.79 6 | 1295.96 | 2(+) | 255.96 | 2 ⁺ | (M1+E2) | +1.9 +11-9 | 0.00182 19 | α=0.00182 19; α(K)=0.00155 16; α(L)=0.00020 2 |
| 1042.8 [‡] 3 | 0.301 10 | 1753.80 | 2 ⁺ ,3,4 ⁺ | 711.03 | 4 ⁺ | | | | |
| 1062.6 1 | 0.36 [#] 10 | 1936.26 | 1,3 | 873.55 | 2 ⁺ | | | | |
| ^x 1082.6 10 | 0.20 4 | | | | | | | | |
| 1089.5 1 | 1.93 4 | 1345.39 | 4 ⁺ | 255.96 | 2 ⁺ | Q ^b | | | |
| 1096.9 2 | 1.1 [#] 4 | 1807.90 | 5 ⁺ | 711.03 | 4 ⁺ | D ^b | | | |
| 1099.1 [‡] 2 | 0.6 [#] 4 | 1810.11 | 2 ⁺ ,3,4 ⁺ | 711.03 | 4 ⁺ | | | | |
| 1126.5 [‡] 2 | 0.205 10 | 2459.11 | | 1332.46 | 6 ⁺ | | | | |
| 1129.5 1 | 0.791 23 | 2872.06 | 2,3,4 | 1742.54 | 3 ⁻ | | | | |
| ^x 1136.5 [‡] 2 | 0.110 [@] 13 | | | | | | | | |
| ^x 1138.6 [‡] 2 | 0.110 [@] 13 | | | | | | | | |
| 1144.6 [‡] 3 | 0.039 [#] 15 | 2018.26 | 2 ⁺ ,3,4 ⁺ | 873.55 | 2 ⁺ | | | | |
| 1166.9 2 | 0.271 10 | 2512.26 | 4 ⁺ ,5,6 ⁺ | 1345.39 | 4 ⁺ | | | | |
| 1179.8 3 | 0.12 [#] 4 | 2512.26 | 4 ⁺ ,5,6 ⁺ | 1332.46 | 6 ⁺ | | | | |
| ^x 1189.3 3 | 0.149 22 | | | | | | | | |
| 1203.2 1 | 0.74 5 | 2499.13 | 3 ⁻ ,4 ⁺ | 1295.96 | 2(+) | | | | |
| 1211.2 1 | 1.03 5 | 2953.67 | 2 ⁺ ,3,4 ⁺ | 1742.54 | 3 ⁻ | | | | |
| ^x 1218.0 3 | 0.052 17 | | | | | | | | |
| 1220.9 1 | 0.944 19 | 2566.31 | 4(+),5,6 ⁺ | 1345.39 | 4 ⁺ | | | | |
| 1227.8 1 | 8.9 [#] 11 | 1938.84 | 5 ⁻ | 711.03 | 4 ⁺ | E1 ^b | | 0.00053 | α=0.00053; α(K)=0.00045 1 |
| 1231.3 [‡] 5 | 0.18 [#] 4 | 2576.77 | 3,4 | 1345.39 | 4 ⁺ | | | | |
| 1262.9 1 | 1.03 [#] 15 | 2499.13 | 3 ⁻ ,4 ⁺ | 1236.20 | 3 ⁺ | | | | |
| ^x 1287.0 7 | 0.25 4 | | | | | | | | |

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¹²⁶La ε decay (54 s+50 s) 2002Ko02 (continued)

γ(¹²⁶Ba) (continued)

| E_γ † | I_γ | $E_i(\text{level})$ | J_i^π | E_f | J_f^π | Mult. ^a | Comments |
|---------------------|----------------|----------------------|-----------|------------------------------------|-----------|--------------------|----------|
| 1296.0 | 1 | 1.028 20 | 1295.96 | 2 ⁽⁺⁾ | 0.0 | 0 ⁺ | |
| ^x 1299.3 | [‡] 3 | 0.094 10 | | | | | |
| 1305.5 | [‡] 5 | 0.27 [#] 5 | 2179.10 | 2 ⁺ ,3,4 ⁺ | 873.55 | 2 ⁺ | |
| 1307.1 | [‡] 5 | 0.21 [#] 4 | 2018.26 | 2 ⁺ ,3,4 ⁺ | 711.03 | 4 ⁺ | |
| 1340.6 | 1 | 1.19 [#] 16 | 2576.77 | 3,4 | 1236.20 | 3 ⁺ | |
| 1345.0 | 1 | 5.36 9 | 2056.02 | 4 ⁻ | 711.03 | 4 ⁺ | D |
| 1383.7 | 1 | 0.646 17 | 2716.21 | 4 ⁺ ,5,6 ⁺ | 1332.46 | 6 ⁺ | |
| 1387.2 | 5 | 0.330 16 | 2732.55 | 3 ⁻ ,4,5 ⁺ | 1345.39 | 4 ⁺ | |
| 1392.4 | 1 | 0.335 11 | 2103.43 | | 711.03 | 4 ⁺ | |
| 1403.2 | 1 | 0.655 18 | 2748.57 | 4 ⁽⁺⁾ ,5,6 ⁺ | 1345.39 | 4 ⁺ | |
| 1406.3 | 5 | 0.257 10 | 2117.19 | | 711.03 | 4 ⁺ | |
| 1448.1 | 1 | 0.943 17 | 2684.31 | (4) | 1236.20 | 3 ⁺ | |
| 1461.5 | 1 | 0.633 15 | 1717.55 | 2 ⁺ | 255.96 | 2 ⁺ | |
| 1468.1 | [‡] 1 | 0.282 21 | 2179.10 | 2 ⁺ ,3,4 ⁺ | 711.03 | 4 ⁺ | |
| ^x 1477.5 | 10 | 0.132 12 | | | | | |
| 1486.6 | 1 | 8.46 15 | 1742.54 | 3 ⁻ | 255.96 | 2 ⁺ | D |
| 1496.4 | 2 | 0.58 4 | 2732.55 | 3 ⁻ ,4,5 ⁺ | 1236.20 | 3 ⁺ | |
| ^x 1514.7 | 5 | 0.184 25 | | | | | |
| 1536.5 | 1 | 3.06 10 | 2247.55 | 3 ⁻ ,5 ⁻ | 711.03 | 4 ⁺ | |
| ^x 1554.0 | 5 | 0.139 12 | | | | | |
| ^x 1563.6 | [‡] 2 | 0.274 20 | | | | | |
| 1620.8 | 2 | 0.95 5 | 1876.68 | | 255.96 | 2 ⁺ | |
| 1625.6 | 3 | 0.204 13 | 2499.13 | 3 ⁻ ,4 ⁺ | 873.55 | 2 ⁺ | |
| 1635.9 | 2 | 0.228 13 | 2872.06 | 2,3,4 | 1236.20 | 3 ⁺ | |
| 1657.6 | 3 | 0.187 15 | 2953.67 | 2 ⁺ ,3,4 ⁺ | 1295.96 | 2 ⁽⁺⁾ | |
| 1667.8 | 1 | 1.02 4 | 2378.84 | | 711.03 | 4 ⁺ | |
| 1674.9 | 1 | 0.339 23 | 2385.94 | | 711.03 | 4 ⁺ | |
| 1680.4 | 1 | 0.80 5 | 1936.26 | 1,3 | 255.96 | 2 ⁺ | |
| 1687.9 | [‡] 5 | 0.108 20 | 2399.0 | 2 ⁺ ,3,4 ⁺ | 711.03 | 4 ⁺ | |
| 1702.7 | 3 | 0.163 13 | 3758.7 | | 2056.02 | 4 ⁻ | |
| 1717.4 | 5 | 0.346 18 | 1717.55 | 2 ⁺ | 0.0 | 0 ⁺ | |
| 1748.1 | 1 | 1.71 6 | 2459.11 | | 711.03 | 4 ⁺ | |
| 1762.3 | 1 | 0.82 3 | 2018.26 | 2 ⁺ ,3,4 ⁺ | 255.96 | 2 ⁺ | |
| 1773.8 | 1 | 1.20 4 | 2029.78 | 0 ⁽⁺⁾ | 255.96 | 2 ⁺ | Q |
| 1788.1 | 1 | 0.383 21 | 2499.13 | 3 ⁻ ,4 ⁺ | 711.03 | 4 ⁺ | |
| 1801.2 | 1 | 2.14 7 | 2512.26 | 4 ⁺ ,5,6 ⁺ | 711.03 | 4 ⁺ | |
| 1844.3 | 2 | 0.419 16 | 2100.28 | | 255.96 | 2 ⁺ | |
| 1865.9 | 3 | 0.243 16 | 2576.77 | 3,4 | 711.03 | 4 ⁺ | |
| ^x 1877.6 | [‡] 5 | 0.14 [#] 7 | | | | | |
| ^x 1889.3 | [‡] 5 | 0.13 [#] 6 | | | | | |
| 1894.4 | 1 | 0.75 3 | 2605.52 | | 711.03 | 4 ⁺ | |

δ: +0.16 +23-2I if J=1 or <-0.15 if J=3 (2002Ko02).

γ(¹²⁶Ba) (continued)

| <u>E_γ[†]</u> | <u>I_γ</u> | <u>E_i(level)</u> | <u>J_i^π</u> | <u>E_f</u> | <u>J_f^π</u> | <u>E_γ[†]</u> | <u>I_γ</u> | <u>E_i(level)</u> | <u>J_i^π</u> | <u>E_f</u> | <u>J_f^π</u> |
|------------------------------------|---------------------------|-----------------------------|------------------------------------|----------------------|----------------------------------|-------------------------------------|---------------------------|-----------------------------|----------------------------------|----------------------|----------------------------------|
| ^x 1910.6 5 | 0.100 11 | | | | | ^x 2484.2 [‡] 10 | 0.237 ^{&} 18 | | | | |
| ^x 1915.5 5 | 0.100 10 | | | | | 2691.9 5 | 0.200 16 | 3402.9 | 2 ⁺ ,3,4 ⁺ | 711.03 | 4 ⁺ |
| 1923.1 1 | 0.85 3 | 2179.10 | 2 ⁺ ,3,4 ⁺ | 255.96 | 2 ⁺ | 2697.6 1 | 0.94 3 | 2953.67 | 2 ⁺ ,3,4 ⁺ | 255.96 | 2 ⁺ |
| 1946.3 3 | 0.269 15 | 2657.39 | 2 ⁺ ,3,4 ⁺ | 711.03 | 4 ⁺ | ^x 2728.0 [‡] 20 | 0.147 14 | | | | |
| 1973.3 1 | 0.88 3 | 2684.31 | (4) | 711.03 | 4 ⁺ | 2773.5 10 | 0.222 16 | 3484.7 | 2 ⁺ ,3,4 ⁺ | 711.03 | 4 ⁺ |
| 2005.2 1 | 2.80 9 | 2716.21 | 4 ⁺ ,5,6 ⁺ | 711.03 | 4 ⁺ | 2852.0 5 | 0.186 14 | 3107.9 | 2 ⁺ ,3,4 ⁺ | 255.96 | 2 ⁺ |
| 2021.5 1 | 0.379 17 | 2732.55 | 3 ⁻ ,4,5 ⁺ | 711.03 | 4 ⁺ | 2929.6 5 | 0.149 10 | 3185.6 | 2 ⁺ ,3,4 ⁺ | 255.96 | 2 ⁺ |
| 2037.6 5 | 0.232 13 | 2748.57 | 4 ⁽⁺⁾ ,5,6 ⁺ | 711.03 | 4 ⁺ | ^x 2984.8 5 | 0.120 12 | | | | |
| ^x 2131.3 10 | 0.35 10 | | | | | 2992.6 3 | 0.57 17 | 3703.70 | 2 ⁺ ,3,4 ⁺ | 711.03 | 4 ⁺ |
| 2143.1 [‡] 5 | 0.18 [#] 10 | 2399.0 | 2 ⁺ ,3,4 ⁺ | 255.96 | 2 ⁺ | ^x 2995.4 [‡] 5 | 0.12 4 | | | | |
| ^x 2151.3 10 | 0.18 10 | | | | | ^x 3028.3 5 | 0.110 11 | | | | |
| ^x 2227.3 3 | 0.131 13 | | | | | 3146.8 [‡] 8 | 0.177 22 | 3402.9 | 2 ⁺ ,3,4 ⁺ | 255.96 | 2 ⁺ |
| ^x 2235.9 10 | 0.24 4 | | | | | ^x 3218.6 5 | 0.131 12 | | | | |
| 2242.6 1 | 0.67 3 | 2953.67 | 2 ⁺ ,3,4 ⁺ | 711.03 | 4 ⁺ | 3228.9 10 | 0.050 8 | 3484.7 | 2 ⁺ ,3,4 ⁺ | 255.96 | 2 ⁺ |
| 2349.6 1 | 0.96 4 | 2605.52 | | 255.96 | 2 ⁺ | ^x 3442.6 [‡] 5 | 0.15 8 | | | | |
| ^x 2379.7 5 | 0.173 15 | | | | | 3447.7 [‡] 2 | 1.31 5 | 3703.70 | 2 ⁺ ,3,4 ⁺ | 255.96 | 2 ⁺ |
| 2396.8 5 | 0.20 [#] 10 | 3107.9 | 2 ⁺ ,3,4 ⁺ | 711.03 | 4 ⁺ | ^x 3451.6 5 | 0.27 14 | | | | |
| 2401.4 1 | 1.61 8 | 2657.39 | 2 ⁺ ,3,4 ⁺ | 255.96 | 2 ⁺ | ^x 3524.4 5 | 0.095 12 | | | | |
| ^x 2461.1 2 | 0.339 22 | | | | | ^x 3583.1 10 | 0.084 13 | | | | |
| 2474.5 3 | 0.134 11 | 3185.6 | 2 ⁺ ,3,4 ⁺ | 711.03 | 4 ⁺ | ^x 3853.5 10 | 0.063 11 | | | | |
| ^x 2480.4 [‡] 5 | 0.237 ^{&} 18 | | | | | | | | | | |

[†] From **2002Ko02**.

[‡] From coincidence data.

[#] From singles and coincidence data.

@ sum of 1137+1139 keV γ's.

& sum of 2480+2484 keV γ's.

^a From γγ(θ) and α(K)exp in **2002Ko02**. The α(K)exp values are normalized to α(K)(255.93γ)=0.0605 (E2).

^b From Adopted Levels, gammas.

^c Total theoretical internal conversion coefficients, calculated using the BrIcc code (**2008Ki07**) with Frozen orbital approximation based on γ-ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

^x γ ray not placed in level scheme.

∞

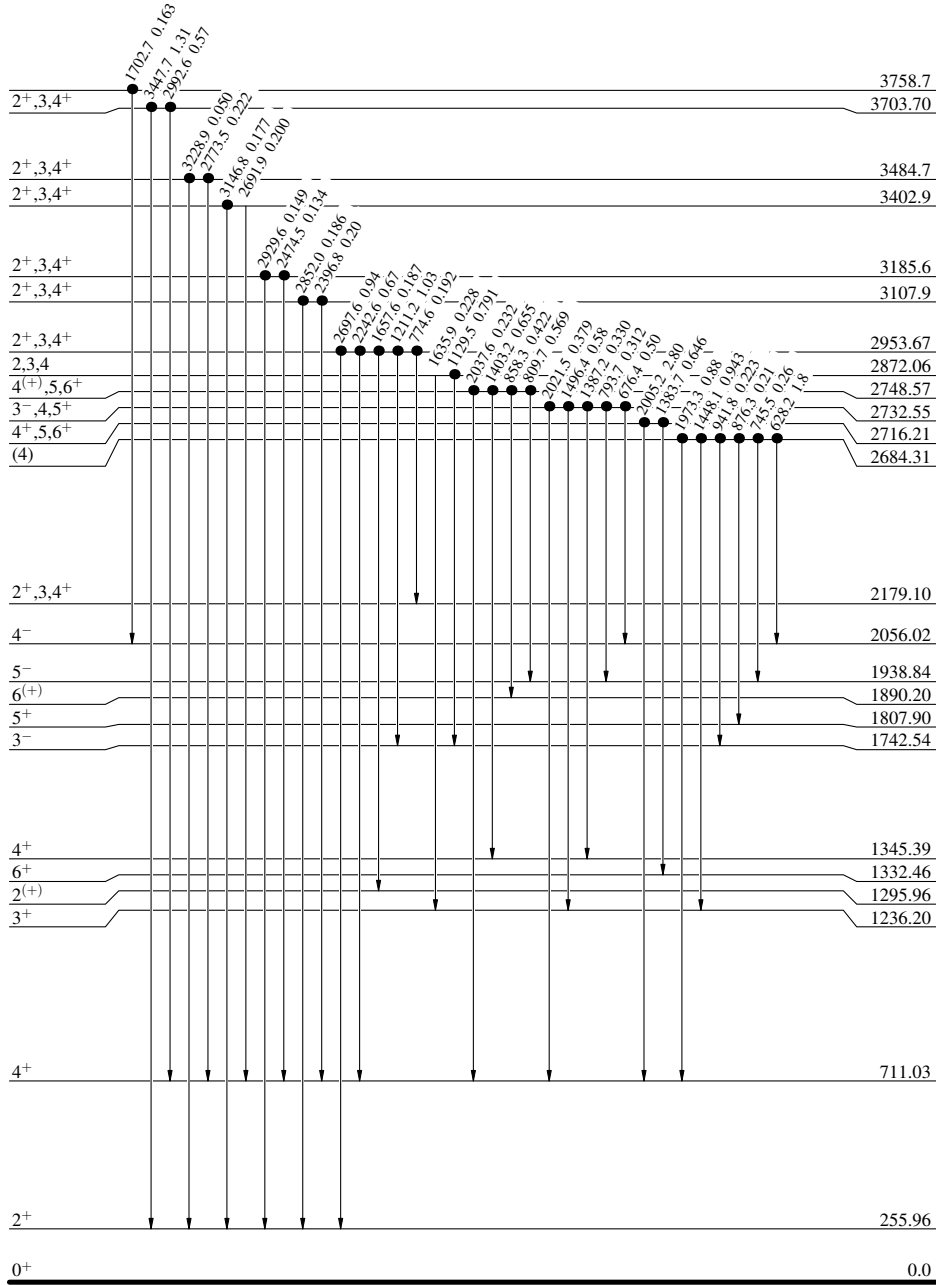
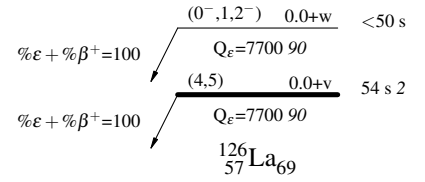
^{126}La ϵ decay (54 s+50 s) 2002Ko02

Legend

- $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
- $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
- $I_\gamma > 10\% \times I_\gamma^{\text{max}}$
- Coincidence

Decay Scheme

Intensities: Relative I_γ



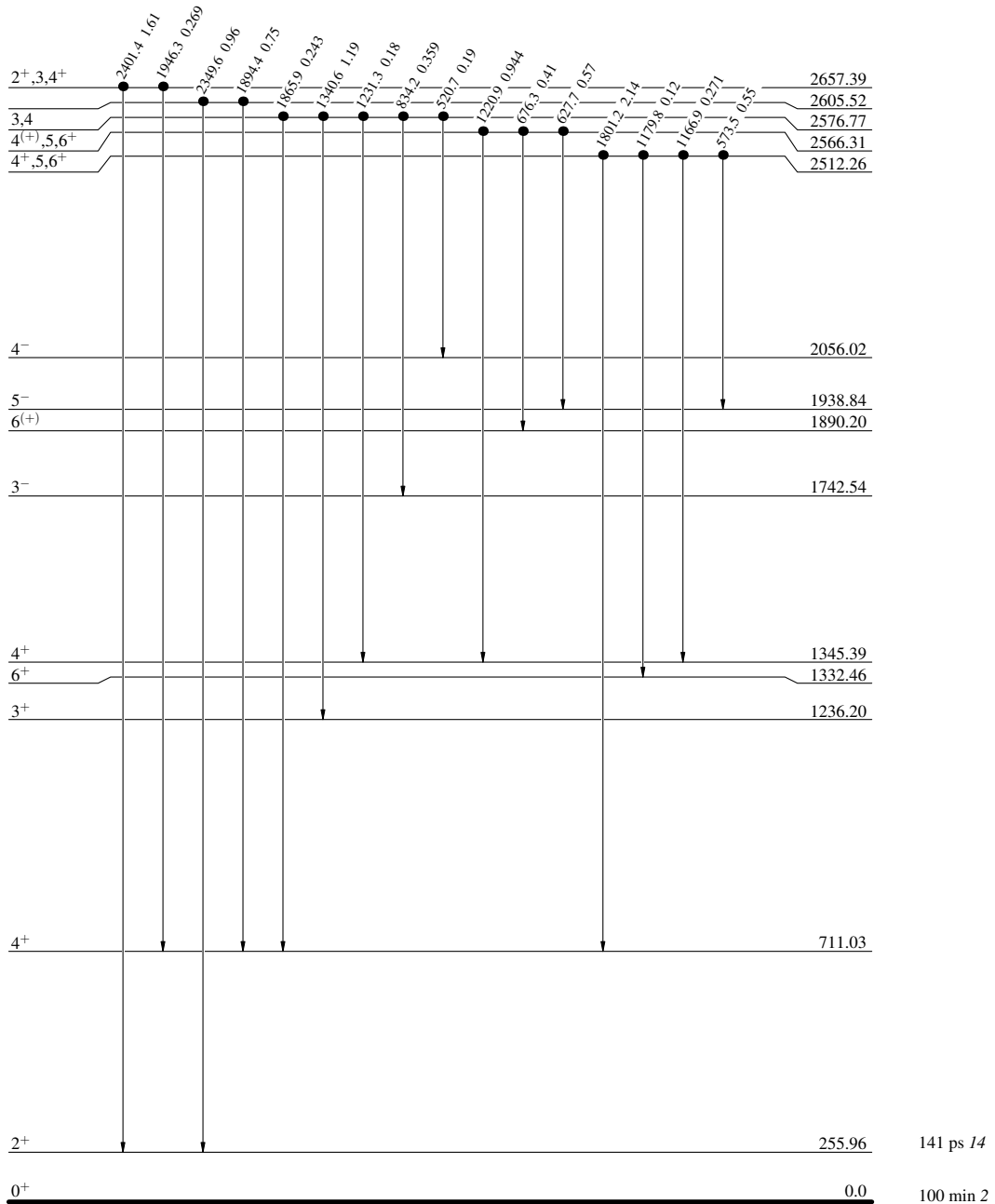
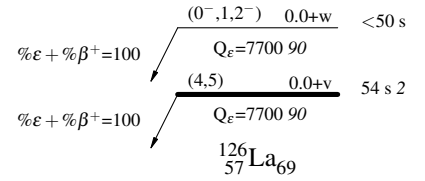
^{126}La ϵ decay (54 s+50 s) 2002Ko02

Decay Scheme (continued)

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- Coincidence

Intensities: Relative I_γ



$^{126}_{56}\text{Ba}_{70}$

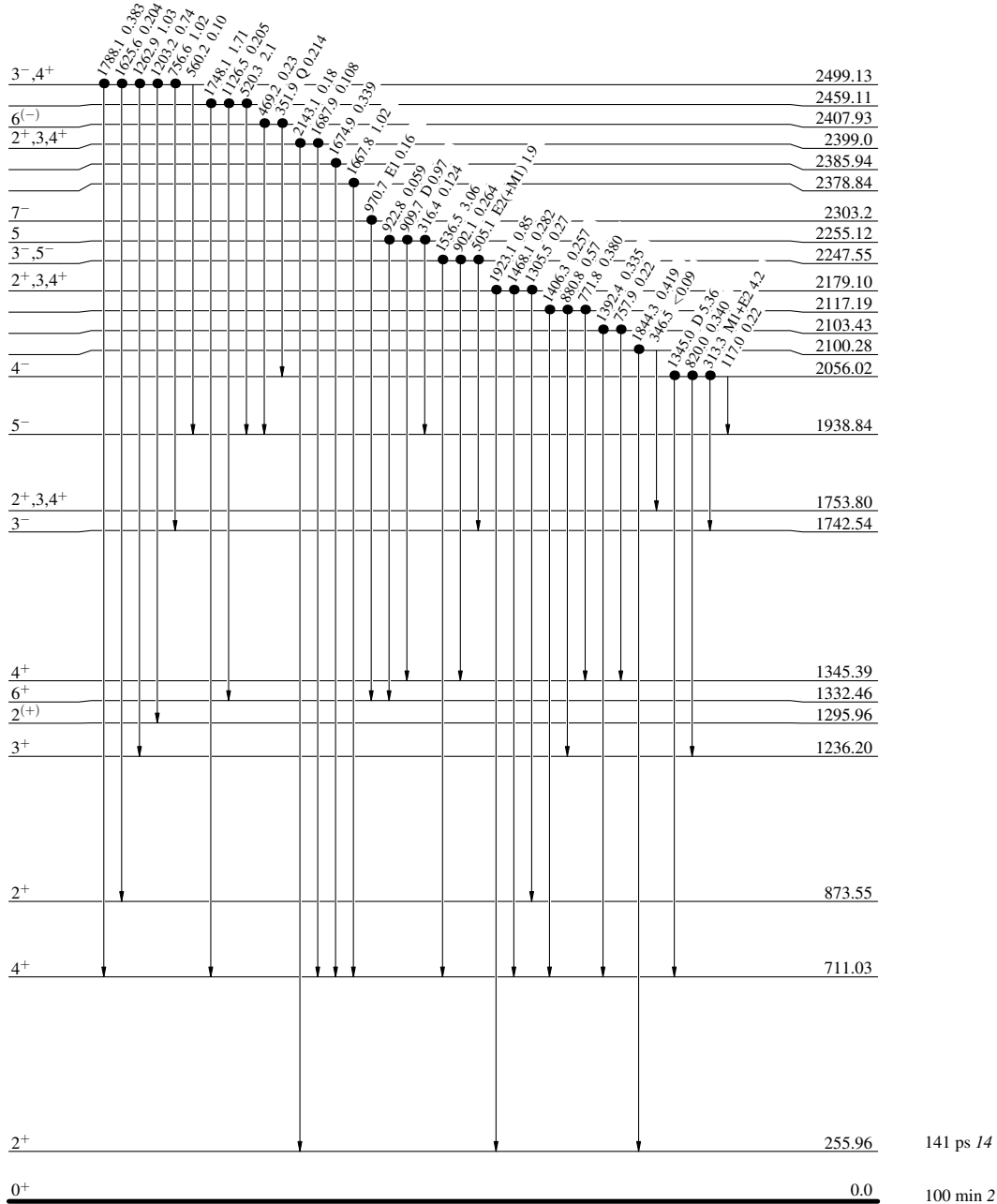
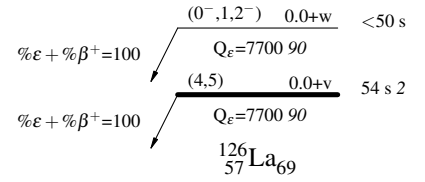
^{126}La ϵ decay (54 s+50 s) 2002Ko02

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- Coincidence

Decay Scheme (continued)

Intensities: Relative I_γ



$^{126}_{56}\text{Ba}_{70}$

^{126}La ϵ decay (54 s+50 s) 2002Ko02

Decay Scheme (continued)

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- Coincidence

Intensities: Relative I_γ

