

$^{83}\text{Kr}(n,\gamma)$ E=thermal 1987Ha21,1972Ma42

| Type | Author | History | Citation | Literature Cutoff Date |
|-----------------|--|---------|---------------------|------------------------|
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 $J^\pi(^{83}\text{Kr})=9/2^+$. ^{84}Kr Levels

| E(level) | J^π^\dagger | E(level) | J^π^\dagger | E(level) | J^π^\dagger | E(level) | J^π^\dagger |
|------------|-----------------|------------|-----------------|------------|-----------------|---------------------------|-----------------|
| 0 | 0^+ | 2771.10 11 | 5^- | 3312.53 14 | (3^-) | 4001.96 13 | (4^-) |
| 881.69 9 | 2^+ | 2861.14 10 | $(2^+,3,4^+)$ | 3408.25 13 | $(3^-,4,5^-)$ | 4214.56 14 | |
| 1897.78 7 | 2^+ | 3042.19 11 | $(2^+,3,4^+)$ | 3426.77 14 | $(2^+,3,4^+)$ | 4238.7 5 | |
| 2095.01 11 | 4^+ | 3082.53 12 | 3 | 3463.2 4 | | 4278.4 6 | |
| 2345.60 10 | 4^+ | 3172.7 3 | (6^+) | 3587.2 4 | 6^- | 4455.9 4 | |
| 2623.2 3 | 2^+ | 3183.3 3 | $(2^+,3,4^+)$ | 3638.61 12 | (5^-) | 4594.9 5 | |
| 2700.39 10 | 3^- | 3219.40 11 | 5^-^\ddagger | 3718.14 22 | (3^-) | 4676.77 21 | |
| 2759.39 16 | 2^+ | 3288.97 17 | 5^+ | 3777.0 4 | | (10520.6# [@] 3) | $4^+,5^+^@$ |

[†] From Adopted Levels.[‡] Authors suggest (4^+).[#] Energy of the capture state deduced from least-squares fit of the levels to the gammas (2007ChZX). Possible systematic errors are not included in ΔE .[@] Thermal neutron capture by $9/2^+$ target. S(n)=10520.6 3 (2009AuZZ,2003Au03).

γ(⁸⁴Kr)

Thermal neutron capture in natural krypton.

1987Ha21: Ge(Li), FWHM=2.3 keV at 1.33 MeV. Measured Eγ<5.5 MeV, Iγ, γγ, γγ(θ).

1972Ma42: Ge(Li) pair and anticoincidence spectrometers. Measured Eγ, Iγ.

γγ directional-correlation measurements (1987Ha21):

| level | cascade | A ₂ | A ₄ | J | δ(1) | δ(2) |
|-------|---------------|----------------|----------------|----------|-----------|---------|
| 1897 | 1016-882 | -0.18 5 | 0.04 6 | 2-2-0 | +0.62 11 | |
| 2095 | 1213-882 | 0.105 14 | 0.006 20 | 4-2-0 | +0.006 23 | |
| 2345 | 1464-882 | 0.11 1 | 0.01 2 | 4-2-0 | +0.007 15 | |
| 2700 | 803-1898 | -0.16 3 | 0.06 4 | 3-2-0 | -0.11 5 | |
| | 803-1016 | -0.12 6 | 0.16 6 | 3-2-2 | -0.02 14 | +0.62 # |
| 2771 | 425-1464 | -0.06 2 | -0.003 18 | 5-4-2 | +0.018 21 | |
| | 425(1464)882 | -0.08 2 | 0.00 2 | 5-4-2-0 | -0.03 4 | |
| 3219 | 1124-1213 | -0.13 2 | 0.03 5 | 4-4-2(a) | +1.08 15 | |
| | 1124(1213)882 | -0.16 4 | 0.08 4 | 4-4-2-0 | +1.3 5 | |
| 3289 | 943-1464 | 0.09 3 | -0.01 4 | 3-4-2 | -0.28 4 | |
| | | | | 4-4-2 | +0.29 8 | |
| | | | | 5-4-2 | +0.26 6 | |
| | | | | or | +2.9 5 | |
| | | | | 6-4-2 | -0.02 6 | |
| 3312 | 612(803)1898 | 0.016 9 | 0.21 12 | 3-3-2-0 | -3.75 26 | |
| | | | | or | +0.41 3 | |

A₂, A₄ are averages of the coefficients quoted by 1987Ha21.
 J sequence, δ(1), and δ(2) are from the evaluators' analysis.
 δ(2) kept fixed. Large-δ solutions have not been considered for E1+M2 and E2+M3 transitions.

a adopted J(3219)=5 from (α,2nγ). For 5-4-2 δ(1124)=-0.10 +5-2 which is not in disagreement with it being pure dipole in (α,2nγ)
 # bad fit.

| E _γ [‡] | I _γ [‡] | E _i (level) | E _γ [‡] | I _γ [‡] | E _i (level) | E _f | J _f ^π |
|-----------------------------|-----------------------------|------------------------|-----------------------------|-----------------------------|------------------------|----------------|-----------------------------|
| ^x 87.7 5 | 3.4 6 | | ^x 212.6 @ 9 | 0.32 & 15 | | | |
| ^x 140.0 6 | 2.16 23 | | ^x 229.3 @ 8 | 0.25 & 10 | | | |
| ^x 189.3 @ 6 | 0.40 & 5 | | 236.7 5 | 0.8 & 3 | 4238.7 | 4001.96 | (4 ⁻) |
| ^x 194.3 @ 9 | 1.1 & 5 | | 243.7 4 | 0.4 & 4 | 3463.2 | 3219.40 | 5 ⁻ |
| ^x 198.4 6 | 2.01 24 | | ^x 249.4 @ 7 | 0.31 & 12 | | | |
| ^x 202.3 @ 12 | 0.62 & 15 | | ^x 271.1 9 | 0.23 5 | | | |

⁸³Kr(n,γ) E=thermal 1987Ha21,1972Ma42 (continued)

γ(⁸⁴Kr) (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.#</u> | <u>δ[#]</u> | <u>α[†]</u> | <u>Comments</u> |
|----------------------------------|----------------------------------|-----------------------------|-------------------------------------|----------------------|-------------------------------------|---------------|----------------------|----------------------|---|
| ^x 288.6 9 | 0.61 22 | | | | | | | | |
| ^x 339.6 7 | 0.48 5 | | | | | | | | |
| ^x 347.6 @ 8 | 0.53 & 21 | | | | | | | | |
| 354.7 6 | 0.35 6 | 2700.39 | 3 ⁻ | 2345.60 | 4 ⁺ | | | | |
| 367.7 5 | 2.56 5 | 3587.2 | 6 ⁻ | 3219.40 | 5 ⁻ | | | | |
| 382.2 5 | 0.88 8 | 3082.53 | 3 | 2700.39 | 3 ⁻ | | | | |
| ^x 413.80 @ 12 | 0.21 & 11 | | | | | | | | |
| 419.4 5 | 3.03 5 | 3638.61 | (5 ⁻) | 3219.40 | 5 ⁻ | | | | |
| 425.30 11 | 14.24 9 | 2771.10 | 5 ⁻ | 2345.60 | 4 ⁺ | (E1+M2) | +0.018 21 | 0.001461 24 | α=0.001461 24; α(K)=0.001298 21; α(L)=0.0001379 23; α(M)=2.23×10 ⁻⁵ 4; α(N+.)=2.24×10 ⁻⁶ α(N)=2.24×10 ⁻⁶ 4 |
| 446.5 5 | 0.95 & 7 | 2345.60 | 4 ⁺ | 1897.78 | 2 ⁺ | | | | E _γ : although 1987Ha21 argued against its placement from 2345.6 level due to lack of coin, the evaluators have adopted this placement in keeping with the β ⁻ and (α,2nγ) studies. The agreement of relative branching support this placement. |
| 448.11 11 | 2.84 9 | 3219.40 | 5 ⁻ | 2771.10 | 5 ⁻ | | | | |
| 463.87 ^{bc} 12 | 0.35 8 | 3638.61 | (5 ⁻) | 3172.7 | (6 ⁺) | | | | |
| ^x 473.1 6 | 4.01 3 | | | | | | | | |
| ^x 500.01 17 | 0.80 7 | | | | | | | | |
| ^x 519.3 5 | 0.61 23 | | | | | | | | |
| ^x 520.4 @ 6 | 0.41 & 9 | | | | | | | | |
| ^x 530.02 13 | 1.33 6 | | | | | | | | |
| 541.50 12 | 1.42 6 | 3312.53 | (3 ⁻) | 2771.10 | 5 ⁻ | | | | |
| 546.98 12 | 1.58 6 | 3408.25 | (3 ⁻ ,4,5 ⁻) | 2861.14 | (2 ⁺ ,3,4 ⁺) | | | | |
| ^x 574.3 @ 5 | 0.32 & 11 | | | | | | | | |
| 605.5 4 | 1.92 12 | 2700.39 | 3 ⁻ | 2095.01 | 4 ⁺ | | | | |
| 612.0 3 | 2.01 13 | 3312.53 | (3 ⁻) | 2700.39 | 3 ⁻ | (M1+E2) | +0.41 3 | 0.001408 22 | α=0.001408 22; α(K)=0.001250 19; α(L)=0.0001339 21; α(M)=2.17×10 ⁻⁵ 4; α(N+.)=2.19×10 ⁻⁶ α(N)=2.19×10 ⁻⁶ 4 δ: +0.41 3 or -3.75 26. |
| 637.13 18 | 1.21 11 | 3408.25 | (3 ⁻ ,4,5 ⁻) | 2771.10 | 5 ⁻ | | | | |
| ^x 649.6 3 | 0.67 10 | | | | | | | | |
| ^x 676.3 3 | 0.64 9 | | | | | | | | |
| ^x 681.4 5 | 0.24 8 | | | | | | | | |
| ^x 688.5 @ 3 | 0.49 & 6 | | | | | | | | |
| ^x 696.6 @ 4 | 0.51 & 11 | | | | | | | | |
| 708.24 21 | 1.06 10 | 3408.25 | (3 ⁻ ,4,5 ⁻) | 2700.39 | 3 ⁻ | | | | |

⁸³Kr(n,γ) E=thermal 1987Ha21,1972Ma42 (continued)

| <u>γ(⁸⁴Kr) (continued)</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> | <u>Mult.#</u> | <u>δ[#]</u> | <u>Comments</u> |
| ^x 716.17 24 | 0.64 10 | | | | | | | I _γ : authors' value of 0.64 95 is assumed to be a misprint. It is 0.68 9 in their γγ table. |
| ^x 727.0 10 | 0.39 20 | | | | | | | |
| 737.0 9 | 1.51 25 | 3082.53 | 3 | 2345.60 | 4 ⁺ | | | |
| 765.74 25 | 0.6 4 | 2861.14 | (2 ⁺ ,3,4 ⁺) | 2095.01 | 4 ⁺ | | | |
| 802.62 8 | 7.31 11 | 2700.39 | 3 ⁻ | 1897.78 | 2 ⁺ | (E1+M2) | -0.11 5 | |
| 815.8 5 | 0.08 & 3 | 3587.2 | 6 ⁻ | 2771.10 | 5 ⁻ | | | |
| ^x 832.9 6 | 0.11 5 | | | | | | | |
| ^x 847.07 20 | 0.46 5 | | | | | | | |
| ^x 857.1 4 | 0.23 5 | | | | | | | |
| ^x 874.30 @ 25 | 1.56 & 12 | | | | | | | |
| 881.74 11 | 100.0 16 | 881.69 | 2 ⁺ | 0 | 0 ⁺ | (E2) | | |
| 902.11 15 | 0.66 6 | 4214.56 | | 3312.53 | (3 ⁻) | | | |
| 919.79 19 | 1.07 8 | 4001.96 | (4 ⁻) | 3082.53 | 3 | | | |
| 938.12 13 | 2.16 10 | 3638.61 | (5 ⁻) | 2700.39 | 3 ⁻ | | | |
| 943.36 14 | 3.43 4 | 3288.97 | 5 ⁺ | 2345.60 | 4 ⁺ | | | |
| 946.5 5 | 2.15 9 | 3042.19 | (2 ⁺ ,3,4 ⁺) | 2095.01 | 4 ⁺ | | | |
| 963.44 13 | 3.18 11 | 2861.14 | (2 ⁺ ,3,4 ⁺) | 1897.78 | 2 ⁺ | | | |
| 967.0 5 | 0.40 & 14 | 3312.53 | (3 ⁻) | 2345.60 | 4 ⁺ | | | |
| 987.69 19 | 1.23 12 | 3082.53 | 3 | 2095.01 | 4 ⁺ | | | |
| 1016.20 26 | 5.2 3 | 1897.78 | 2 ⁺ | 881.69 | 2 ⁺ | (M1+E2) | +0.62 11 | |
| ^x 1030.9 8 | 0.14 5 | | | | | | | |
| ^x 1045.2 4 | 0.30 6 | | | | | | | |
| 1077.55 25 | 2.27 14 | 3172.7 | (6 ⁺) | 2095.01 | 4 ⁺ | | | |
| 1087.8 3 | 0.39 5 | 3183.3 | (2 ⁺ ,3,4 ⁺) | 2095.01 | 4 ⁺ | | | |
| ^x 1095.3 9 | 0.32 9 | | | | | | | |
| ^x 1118.02 19 | 0.58 6 | | | | | | | |
| 1124.44 6 | 6.83 10 | 3219.40 | 5 ⁻ | 2095.01 | 4 ⁺ | | | |
| ^x 1142.73 14 | 0.73 5 | | | | | | | |
| ^x 1151.6 8 | 0.11 5 | | | | | | | |
| ^x 1173.05 15 | 0.61 6 | | | | | | | |
| ^x 1195.4 3 | 0.30 5 | | | | | | | |
| ^x 1201.31 12 | 1.61 8 | | | | | | | |
| 1213.42 12 | 39.9 8 | 2095.01 | 4 ⁺ | 881.69 | 2 ⁺ | (E2+M3) | +0.006 23 | |
| 1230.82 11 | 1.49 6 | 4001.96 | (4 ⁻) | 2771.10 | 5 ⁻ | | | |
| ^x 1236.7 4 | 0.25 6 | | | | | | | |
| ^x 1250.3 3 | 0.66 9 | | | | | | | |
| ^x 1254.3 7 | 0.39 8 | | | | | | | |
| ^x 1261.46 18 | 0.97 9 | | | | | | | |
| 1283.0 3 | 0.52 8 | 4455.9 | | 3172.7 | (6 ⁺) | | | |
| 1293.20 13 | 1.84 12 | 3638.61 | (5 ⁻) | 2345.60 | 4 ⁺ | | | |
| ^x 1299.6 3 | 0.55 8 | | | | | | | |
| ^x 1312.00 22 | 0.76 9 | | | | | | | |

⁸³Kr(n,γ) E=thermal 1987Ha21,1972Ma42 (continued)

γ(⁸⁴Kr) (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.#</u> | <u>δ[#]</u> | <u>α[†]</u> | <u>Comments</u> |
|----------------------------------|----------------------------------|-----------------------------|-------------------------------------|----------------------|----------------------------------|---------------|----------------------|----------------------|---|
| 1331.89 13 | 1.89 26 | 3426.77 | (2 ⁺ ,3,4 ⁺) | 2095.01 | 4 ⁺ | | | | |
| ^x 1337.2 4 | 0.13 8 | | | | | | | | |
| ^x 1366.3 8 | 0.31 11 | | | | | | | | |
| ^x 1386.8 6 | 0.34 12 | | | | | | | | |
| ^x 1396.1 @ 4 | 0.81 & 11 | | | | | | | | |
| ^x 1408.2 4 | 0.47 10 | | | | | | | | |
| ^x 1428.7 3 | 0.28 5 | | | | | | | | |
| 1443.43 11 | 1.14 5 | 4214.56 | | 2771.10 | 5 ⁻ | | | | |
| 1463.86 6 | 34.2 4 | 2345.60 | 4 ⁺ | 881.69 | 2 ⁺ | (E2+M3) | +0.007 15 | 0.000289 4 | α=0.000289 4; α(K)=0.000193 3; α(L)=2.03×10 ⁻⁵ 3; α(M)=3.29×10 ⁻⁶ 5; α(N+..)=7.24×10 ⁻⁵ 11 α(N)=3.33×10 ⁻⁷ 5; α(IPF)=7.20×10 ⁻⁵ 10 |
| ^x 1491.74 8 | 1.71 6 | | | | | | | | |
| 1507.3 5 | 0.17 5 | 4278.4 | | 2771.10 | 5 ⁻ | | | | |
| 1543.27 19 | 2.34 8 | 3638.61 | (5 ⁻) | 2095.01 | 4 ⁺ | | | | |
| ^x 1560.5 4 | 0.32 4 | | | | | | | | |
| ^x 1578.2 3 | 0.51 6 | | | | | | | | |
| ^x 1595.5 8 | 0.16 5 | | | | | | | | |
| ^x 1613.6 4 | 0.38 6 | | | | | | | | |
| 1623.20 20 | 1.57 7 | 3718.14 | (3 ⁻) | 2095.01 | 4 ⁺ | | | | |
| ^x 1646.6 4 | 0.59 12 | | | | | | | | |
| 1656.15 18 | 1.34 21 | 4001.96 | (4 ⁻) | 2345.60 | 4 ⁺ | | | | |
| 1682.0 3 | 1.02 8 | 3777.0 | | 2095.01 | 4 ⁺ | | | | |
| ^x 1698.8 6 | 0.31 7 | | | | | | | | |
| ^x 1712.1 3 | 3.10 5 | | | | | | | | |
| ^x 1725.8 5 | 0.38 7 | | | | | | | | |
| 1741.7 3 | 2.10 9 | 2623.2 | 2 ⁺ | 881.69 | 2 ⁺ | | | | |
| ^x 1762.2 3 | 0.36 6 | | | | | | | | |
| ^x 1786.5 3 | 0.35 6 | | | | | | | | |
| ^x 1812.96 17 | 1.43 16 | | | | | | | | |
| 1823.8 5 | 0.43 9 | 4594.9 | | 2771.10 | 5 ⁻ | | | | |
| ^x 1855.6 5 | 0.43 9 | | | | | | | | |
| 1877.84 15 | 0.89 6 | 2759.39 | 2 ⁺ | 881.69 | 2 ⁺ | | | | |
| 1897.79 8 | 10.81 13 | 1897.78 | 2 ⁺ | 0 | 0 ⁺ | | | | |
| 1905.65 17 | 0.76 6 | 4676.77 | | 2771.10 | 5 ⁻ | | | | |
| ^x 1942.0 5 | 0.24 6 | | | | | | | | |
| ^x 1959.48 12 | 1.42 8 | | | | | | | | |
| 1979.34 11 | 5.17 11 | 2861.14 | (2 ⁺ ,3,4 ⁺) | 881.69 | 2 ⁺ | | | | |
| ^x 2017.1 5 | 0.41 12 | | | | | | | | |
| ^x 2033.8 5 | 0.44 12 | | | | | | | | |
| ^x 2041.4 5 | 0.47 13 | | | | | | | | |
| ^x 2074.6 5 | 0.29 6 | | | | | | | | |
| ^x 2127.9 3 | 0.13 13 | | | | | | | | |
| 2160.48 7 | 2.78 7 | 3042.19 | (2 ⁺ ,3,4 ⁺) | 881.69 | 2 ⁺ | | | | |

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⁸³Kr(n,γ) E=thermal 1987Ha21,1972Ma42 (continued)

γ(⁸⁴Kr) (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> |
|----------------------------------|----------------------------------|-----------------------------|-------------------------------------|----------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------|
| x2182.9 3 | 0.34 5 | | | | | x3412.9 6 | 0.50 9 | |
| 2200.86 11 | 1.16 5 | 3082.53 | 3 | 881.69 | 2 ⁺ | x3428.5 9 | 0.29 8 | |
| x2248.7 5 | 0.01 5 | | | | | x3444.1 13 | 0.19 8 | |
| x2261.3 3 | 0.39 5 | | | | | x3458.2 6 | 0.50 10 | |
| 2302.5 4 | 0.51 8 | 3183.3 | (2 ⁺ ,3,4 ⁺) | 881.69 | 2 ⁺ | x3503.4 6 | 0.27 6 | |
| x2312.4 5 | 0.42 8 | | | | | x3529.2 ^a 3 | 3.51 10 | |
| x2331.8 5 | 0.45 6 | | | | | x3550.4 12 | 0.12 6 | |
| x2339.8 4 | 0.58 8 | | | | | x3591 4 | 0.10 10 | |
| x2352.9 4 | 0.51 6 | | | | | x3610.7 9 | 0.44 12 | |
| x2360.6 5 | 0.42 9 | | | | | x3662.6 13 | 0.22 13 | |
| x2382.5 4 | 0.50 12 | | | | | x3735.3 22 | 0.10 8 | |
| x2392.2 6 | 0.34 9 | | | | | x3750.1 23 | 0.09 8 | |
| x2440.6 7 | 0.35 12 | | | | | x3788.5 13 | 0.20 9 | |
| x2468.2 6 | 0.36 11 | | | | | x3805.4 7 | 0.39 11 | |
| x2518.5 4 | 1.02 12 | | | | | x3895.1 4 | 1.21 12 | |
| 2544.72 19 | 1.31 13 | 3426.77 | (2 ⁺ ,3,4 ⁺) | 881.69 | 2 ⁺ | x3941.5 7 | 0.53 10 | |
| x2581.4 3 | 0.95 14 | | | | | x3962.2 16 | 0.22 9 | |
| x2600.9 5 | 0.53 10 | | | | | x3975.4 8 | 0.49 10 | |
| 2622.5 6 | 0.37 9 | 2623.2 | 2 ⁺ | 0 | 0 ⁺ | x3991.1 9 | 0.39 10 | |
| x2636.9 4 | 0.65 12 | | | | | x4035 4 | 0.16 12 | |
| x2675.4 6 | 2.12 21 | | | | | x4092.5 15 | 0.30 11 | |
| x2681.7 7 | 0.32 9 | | | | | x4115.3 18 | 0.61 12 | |
| x2713.4 4 | 0.64 14 | | | | | x4237.7 19 | 0.62 13 | |
| 2758.2 4 | 0.61 11 | 2759.39 | 2 ⁺ | 0 | 0 ⁺ | x4289.0 18 | 0.57 8 | |
| x2769.6 6 | 0.38 10 | | | | | x4305.1 18 | 0.44 7 | |
| x2777.5 17 | 0.19 8 | | | | | x4326.7 19 | 0.41 7 | |
| x2793.5 11 | 0.21 9 | | | | | x4354.5 19 | 0.37 7 | |
| x2835.0 3 | 0.96 9 | | | | | x4366.0 18 | 0.44 8 | |
| x2875.8 10 | 0.21 7 | | | | | x4394.1 16 | 2.19 15 | |
| x2885.6 5 | 0.55 8 | | | | | x4438.2 17 | 0.62 12 | |
| x2893.1 6 | 0.41 8 | | | | | x4460.9 14 | 0.23 9 | |
| x2921.2 5 | 0.70 12 | | | | | x4484.3 17 | 0.67 12 | |
| x2956.6 6 | 0.42 10 | | | | | x4547.8 20 | 0.38 10 | |
| x2965.5 12 | 0.20 8 | | | | | x4557.1 17 | 0.67 12 | |
| x2986.2 6 | 0.39 10 | | | | | x4582.8 10 | 0.34 11 | |
| x3032.2 6 | 0.45 9 | | | | | x4597.5 19 | 0.46 11 | |
| x3108.3 11 | 1.05 17 | | | | | x4656.9 18 | 0.44 10 | |
| x3144.1 4 | 0.67 14 | | | | | x4672.6 11 | 0.32 9 | |
| x3230.5 8 | 0.34 10 | | | | | x4687.3 10 | 0.34 9 | |
| x3244.9 7 | 0.39 11 | | | | | x4764.7 20 | 0.49 10 | |
| x3285.7 10 | 0.46 12 | | | | | x4780.0 10 | 0.51 10 | |
| x3319.1 9 | 0.44 12 | | | | | x4790.2 10 | 0.47 11 | |
| x3358.2 14 | 0.50 15 | | | | | x4853.6 17 | 0.56 6 | |
| x3402.0 10 | 0.26 8 | | | | | x4878.0 18 | 0.33 6 | |

γ(⁸⁴Kr) (continued)

| <u>E_γ[‡]</u> | <u>I_γ[‡]</u> | <u>E_i(level)</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 4892.9 17 | 3.00 10 | | ^x 5378.0 15 | 0.28 9 | | | | |
| ^x 4903.1 18 | 0.41 5 | | ^x 5397.5 11 | 0.52 11 | | | | |
| ^x 4924.5 18 | 0.38 6 | | ^x 5440.5 20 | 0.85 15 | | | | |
| ^x 4936.8 17 | 0.62 7 | | ^x 5480.2 20 | 1.01 16 | | | | |
| ^x 4953.4 12 | 0.16 6 | | ^x 5497.2 18 | 0.22 9 | | | | |
| ^x 4982.6 18 | 0.81 14 | | 5925.4 7 | 0.40 | (10520.6) | 4 ⁺ ,5 ⁺ | 4594.9 | |
| ^x 5015.6 18 | 0.89 11 | | 6063.3 7 | 0.86 | (10520.6) | 4 ⁺ ,5 ⁺ | 4455.9 | |
| ^x 5044.0 17 | 1.74 15 | | 6281.4 7 | 1.3 | (10520.6) | 4 ⁺ ,5 ⁺ | 4238.7 | |
| ^x 5052.2 13 | 0.36 10 | | 6306.8 7 | 2.3 | (10520.6) | 4 ⁺ ,5 ⁺ | 4214.56 | |
| ^x 5073.7 16 | 0.23 9 | | 6519.1 7 | 4.2 | (10520.6) | 4 ⁺ ,5 ⁺ | 4001.96 | (4 ⁻) |
| ^x 5095.6 19 | 0.67 10 | | 6803.5 8 | 3.1 | (10520.6) | 4 ⁺ ,5 ⁺ | 3718.14 | (3 ⁻) |
| ^x 5157.0 19 | 0.77 11 | | 6880.7 7 | 6.7 | (10520.6) | 4 ⁺ ,5 ⁺ | 3638.61 | (5 ⁻) |
| ^x 5172.3 18 | 0.94 10 | | 6931.7 8 | 2.6 | (10520.6) | 4 ⁺ ,5 ⁺ | 3587.2 | 6 ⁻ |
| ^x 5193.3 16 | 0.27 9 | | 7056.5 11 | 0.26 | (10520.6) | 4 ⁺ ,5 ⁺ | 3463.2 | |
| ^x 5202.5 18 | 1.27 12 | | 7207.5 9 | 1.2 | (10520.6) | 4 ⁺ ,5 ⁺ | 3312.53 | (3 ⁻) |
| ^x 5220.9 19 | 0.70 10 | | 7301.0 12 | 0.25 | (10520.6) | 4 ⁺ ,5 ⁺ | 3219.40 | 5 ⁻ |
| ^x 5233.2 18 | 1.39 13 | | 7478.6 14 | 0.37 | (10520.6) | 4 ⁺ ,5 ⁺ | 3042.19 | (2 ⁺ ,3,4 ⁺) |
| ^x 5261.4 19 | 0.86 12 | | 7749.9 15 | 0.55 | (10520.6) | 4 ⁺ ,5 ⁺ | 2771.10 | 5 ⁻ |
| ^x 5279.2 19 | 0.98 12 | | 7820.5 15 | 0.27 | (10520.6) | 4 ⁺ ,5 ⁺ | 2700.39 | 3 ⁻ |
| ^x 5289.1 20 | 0.69 11 | | 8174.7 20 | 0.06 | (10520.6) | 4 ⁺ ,5 ⁺ | 2345.60 | 4 ⁺ |
| ^x 5305.5 10 | 0.60 10 | | 8423.8 20 | 0.93 | (10520.6) | 4 ⁺ ,5 ⁺ | 2095.01 | 4 ⁺ |
| ^x 5352.0 10 | 0.77 15 | | 8618.9 20 | 0.07 | (10520.6) | 4 ⁺ ,5 ⁺ | 1897.78 | 2 ⁺ |
| ^x 5358.3 12 | 0.56 14 | | 9636.4 20 | 0.33 | (10520.6) | 4 ⁺ ,5 ⁺ | 881.69 | 2 ⁺ |

† Additional information 1.

‡ From 1987Ha21 for E_γ<5.5 MeV and from 1972Ma42 for higher-energy transitions. Both authors use natural targets, so not all transitions are necessarily in ⁸⁴Kr. The level scheme proposed by 1987Ha21 incorporates only transitions identified on the basis of γγ as belonging to ⁸⁴Kr. High-energy transitions that fit into the established level scheme are assigned as primary transitions belonging to ⁸⁴Kr.

From γγ(θ) (1987Ha21). Parity of the transitions deduced from adopted J^π.

@ Observed in coincidences spectra only.

& From coincidence measurement.

^a Assignment uncertain.

^b γ mismatches level difference by ≈2 keV. Placement between 3638.5 and 3172.5 levels seems correct, but E_γ is probably a misprint.

^c Placement of transition in the level scheme is uncertain.

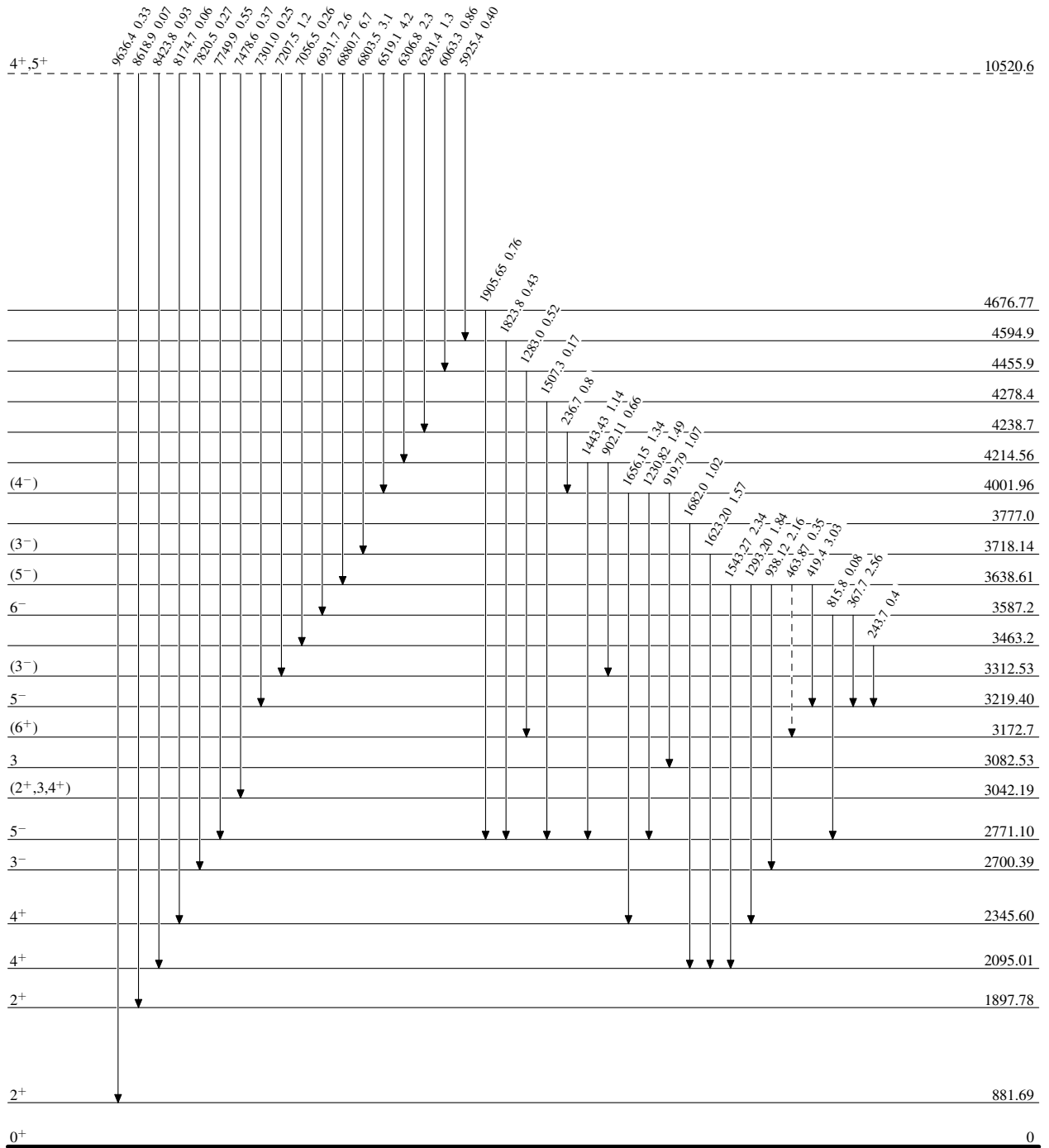
^x γ ray not placed in level scheme.

$^{83}\text{Kr}(n,\gamma) \text{E=thermal} \quad 1987\text{Ha21},1972\text{Ma42}$

Legend

Level Scheme
Intensities: Relative I_γ

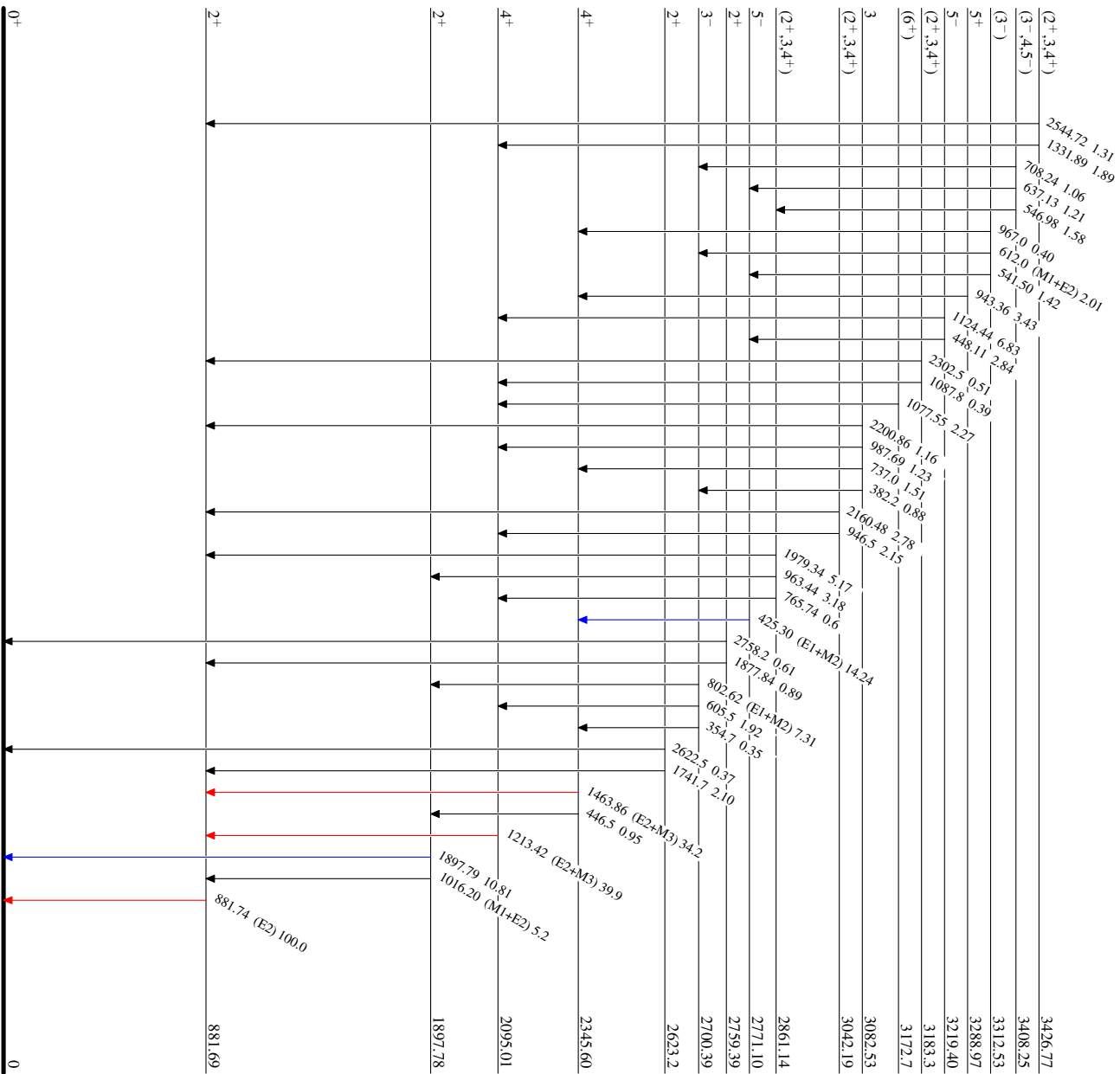
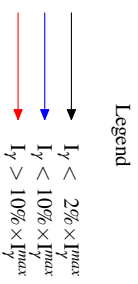
- $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
- $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
- $I_\gamma > 10\% \times I_\gamma^{\text{max}}$
- - - - -→ γ Decay (Uncertain)



⁸³Kr(n,γ) E=thermal ¹⁹⁸⁷Ha21,1972Ma42

Level Scheme (continued)

Intensities: Relative I_γ



⁸⁴Kr-9
³⁶Kr-48