^{82}Kr(α,2nγ) 1981Fi03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	B. Singh, A. Negret, and K. Zuber	NDS 110,2815 (2009)	30-Sep-2009

1981Fi03: E=28 MeV. Measured Eγ, Iγ, γγ, γ(θ). Enriched target, Ge(Li) detectors.
1980Ek03: E=18 MeV. Measured γ(θ), γ(lin pol), lifetimes by by recoil-distance method. The first 2^+ and 4^+ levels measured.

^{84}Sr Levels

E(level)†	Jπ‡	$T_{1/2}$#	E(level)†	Jπ‡
0.0@	0^+		3282.4a *3*	(6^-)
793.3@ *1*	2^+	4.2 ps *+28−14*	3334.6 *4*	(8^+)
1453.3& *6*	2^+		3489.62a *20*	(7^-)
1768.71@ *15*	4^+	0.97 ps *28*	3652.62 *23*	
2054.7& *6*	(3^+)		3681.0 *4*	(8^+)
2447.8a *6*	3^-		4451.7 *4*	(10^+)
2595.8& *6*	(4^+)		4535.5 *5*	(10^+)
2771.22a *18*	5^-		4639.5a *4*	(9^-)
2810.22@ *18*	6^+			

† From least-squares fit to Eγ′s.
‡ As proposed by 1981Fi03 based on their γ(θ) and band associations.
# From recoil-distance Doppler shift method (1980Ek03).
@ Band(A): g.s. band.
& Band(B): quasi γ band.
a Band(C): Octupole band based on 3^-.

γ(^{84}Sr)

E_γ†	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.#	Comments
163.0‡ *1*	2.0 *2*	3652.62		3489.62	(7^-)		A_2=+0.64 *12*.
346.3 *1*	4.0 *4*	3681.0	(8^+)	3334.6	(8^+)		A_2=+0.48 *7*.
511.2‡ *2*	12 *1*	3282.4	(6^-)	2771.22	5^-		
522.4 *5*	14 *1*	3334.6	(8^+)	2810.22	6^+		E_γ: level-energy difference=524.4. A_2=+0.29 *6*.
601.4 *1*	8.0 *8*	2054.7	(3^+)	1453.3	2^+		A_2=+0.23 *7*.
660.0 *6*	12 *1*	1453.3	2^+	793.3	2^+	M1+E2	Additional information 2. Mult.: ΔJ=0, M1+E2 γ from A_2=+0.26 *2*, A_4=−0.10 *3*, POL=+0.55 *11* (1980Ek03).
679.1@ *6*	6.0 *6*	2447.8	3^-	1768.71	4^+	D	A_2=−0.21 *7*. E_γ: placement of this γ from 2448 level is considered by the evaluators as suspect. This γ is placed from a 2735-keV level in ^{84}Y ε decay and in ^{76}Ge(^{12}C,4nγ),^{81}Br(^{6}Li,3nγ). Another γ at 680.1 is placed from a 3488,(7^-) level in the in-beam γ-ray study (1982De05).
718.4 *1*	9 *1*	3489.62	(7^-)	2771.22	5^-		A_2=+0.02 *7*.
793.3 *1*	100	793.3	2^+	0.0	0^+	E2	Additional information 1. A_2=+0.13 *3*, A_4=−0.04 *3*, POL=+0.29 *6* (1980Ek03).
854.5 *3*	6.0 *6*	4535.5	(10^+)	3681.0	(8^+)		A_2=+0.37 *6*.

Continued on next page (footnotes at end of table)

^{82}Kr(α,2nγ) 1981Fi03 (continued)

$\gamma(^{84}Sr)$ (continued)

E_γ[†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	Comments
872.7 *5*	12 *1*	3681.0	(8^+)	2810.22	6^+		E_γ: level-energy difference=870.7. A_2=+0.33 *6*.
975.4 *1*	84 *8*	1768.71	4^+	793.3	2^+	E2	A_2=+0.26 *6*.
994.5 *8*	2.0 *2*	2447.8	3^-	1453.3	2^+	D	A_2=−0.14 *18*.
1002.5 *1*	26 *3*	2771.22	5^-	1768.71	4^+	D	A_2=−0.18 *6*.
1041.5 *1*	55 *6*	2810.22	6^+	1768.71	4^+		A_2=+0.34 *6*.
1117.1[‡] *1*	10 *1*	4451.7	(10^+)	3334.6	(8^+)		A_2=+0.22 *7*.
1142.5 *3*	1.0 *1*	2595.8	(4^+)	1453.3	2^+		A_2=+0.35 *10*.
1149.9[‡] *3*	6.0 *6*	4639.5	(9^-)	3489.62	(7^-)		A_2=+0.37 *7*.

[†] Values listed here are 4 keV less than those quoted by 1981Fi03, since most energies given by 1981Fi03 seem ≈4 keV less than those in several other studies.
[‡] Value is as quoted by 1981Fi03, 4 keV is not subtracted.
[#] From $\gamma(\theta)$ and γ(lin pol) data of 1980Ek03.
[@] Placement of transition in the level scheme is uncertain.

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Level Scheme

Intensities: Relative I_γ

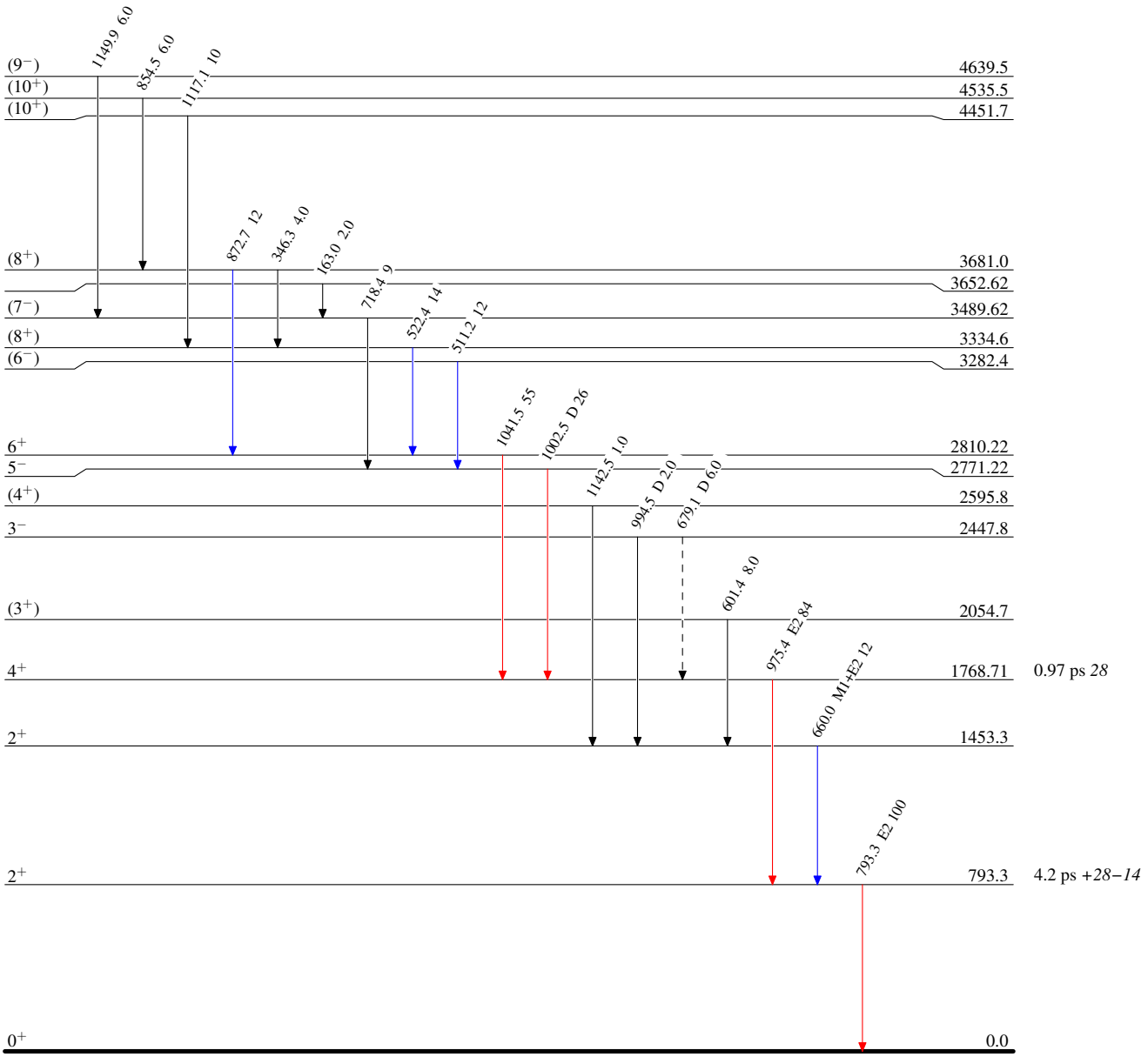
Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$

γ Decay (Uncertain)



$^{84}_{38}Sr_{46}$

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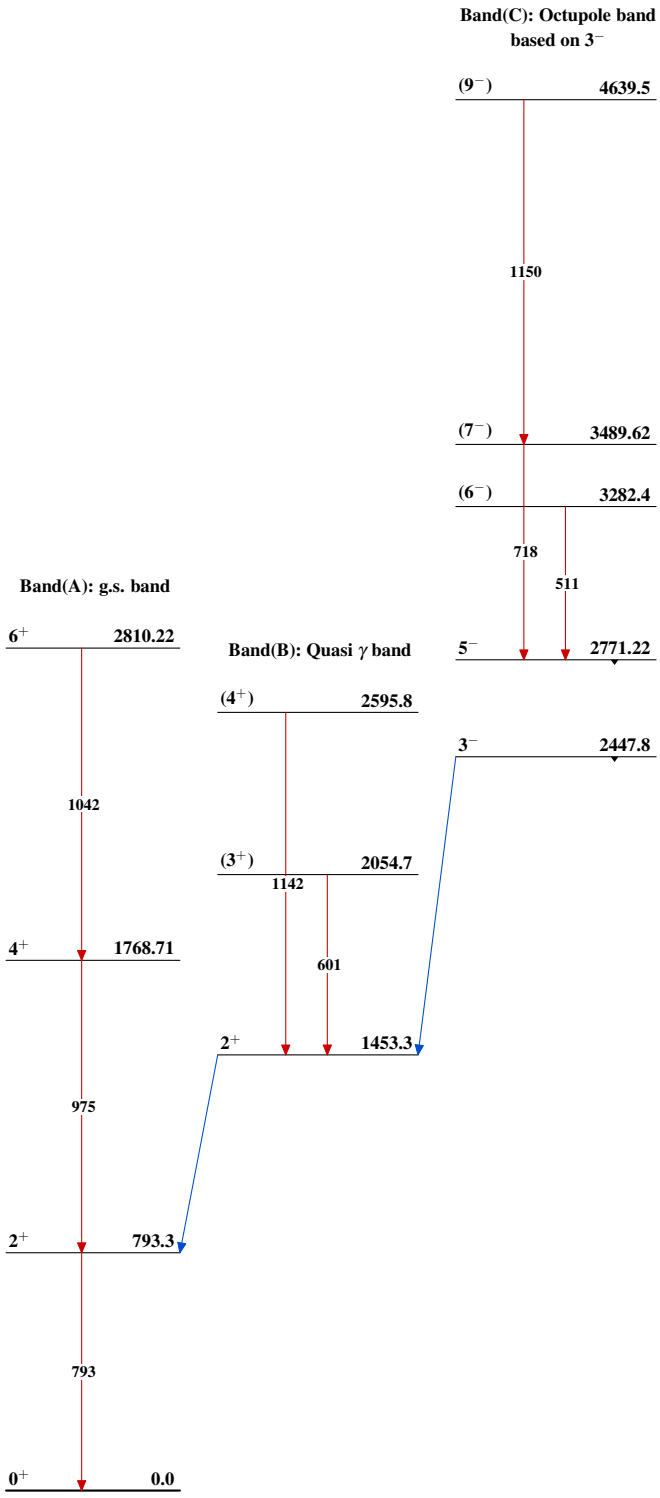

$^{84}_{38}Sr_{46}$