

⁸⁴Kr($\alpha,3n\gamma$) **1977Ar04**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen		NDS 116, 1 (2014)	31-Dec-2013

1977Ar04: ⁸²Kr($\alpha,n\gamma$): E=14 MeV-21 MeV, and ⁸⁴Kr($\alpha,3n\gamma$): E=35 MeV-45 MeV, Ge(Li) detectors, measured γ spectra and coincidences.

⁸⁵Sr Levels

E(level)	J π^\dagger	E(level)	J π^\dagger	T _{1/2}	E(level)	J π^\dagger
0.0	9/2 ⁺	2367.6 7	17/2 ⁽⁻⁾		3381.2 [#] 10	(21/2)
231.69 10	7/2 ⁺	2400.5 7	17/2 ⁺		3397.0 10	(21/2)
1111.4 3	13/2 ⁺	2534.0 [#] 8	(17/2)		3509.2 14	(>23/2)
1220.6 3	(11/2) ⁺	2854.9 [#] 9	19/2 ⁽⁺⁾		3821.7 [#] 18	(>23/2)
1658.1 6	11/2 ⁺	3028.1 7	19/2 ⁽⁻⁾		3981.2? [#] 14	(>23/2)
2102.1 6	13/2 ⁽⁻⁾	3082.0 9	21/2 ⁺	<1 [‡] ns		

[†] From **1977Ar04** based on $\gamma(\theta)$ data and decay pattern.

[‡] Full Doppler-shift suggests short half-life, possibly <1 ns, consistent with 51 ps in Adopted Levels.

[#] Level not listed in Adopted dataset, the associated γ transition is either relocated or non-existent in more recent ⁷⁶Ge(¹³C,4n γ) study by **2012KuZX**.

γ (⁸⁵Sr)

E γ	I γ^\dagger	E _i (level)	J π_i^\dagger	E _f	J π_f^\dagger	Mult. [#]	$\delta^\#$	Comments
128.0 10	≈5.0	3509.2	(>23/2)	3381.2	(21/2)			
166.5 [‡] 10	≈3.0	2534.0	(17/2)	2367.6	17/2 ⁽⁻⁾			
231.7 1		231.69	7/2 ⁺	0.0	9/2 ⁺			
265.5 5	57.7	2367.6	17/2 ⁽⁻⁾	2102.1	13/2 ⁽⁻⁾	Q		A ₂ =+0.33 4, A ₄ =-0.17 5.
312.5 [‡] 10	2.6	3821.7	(>23/2)	3509.2	(>23/2)			
368.9 10	19.2	3397.0	(21/2)	3028.1	19/2 ⁽⁻⁾	(M1+E2)	-0.09 3	A ₂ =-0.28 5, A ₄ =0. I γ : unresolved doublet.
444.0 3		2102.1	13/2 ⁽⁻⁾	1658.1	11/2 ⁺			
454.4 [‡] 5	10.0	2854.9	19/2 ⁽⁺⁾	2400.5	17/2 ⁺	(M1+E2)	-0.12 4	A ₂ =-0.45 3, A ₄ =+0.11 6.
494.2 [‡] 5	<2.0	3028.1	19/2 ⁽⁻⁾	2534.0	(17/2)			
526.3 [‡] 5	4.8	3381.2	(21/2)	2854.9	19/2 ⁽⁺⁾	(M1+E2)	-1.8 3	A ₂ =-0.34 2, A ₄ =0.
600 [‡] @ 1	<2.0	3981.2?	(>23/2)	3381.2	(21/2)			
627.6 5		3028.1	19/2 ⁽⁻⁾	2400.5	17/2 ⁺			I γ : unresolved doublet.
660.6 5	8.6	3028.1	19/2 ⁽⁻⁾	2367.6	17/2 ⁽⁻⁾	(M1+E2)	-0.09 3	A ₂ =-0.64 2, A ₄ =-0.04 5.
681.5 5	8.2	3082.0	21/2 ⁺	2400.5	17/2 ⁺	E2		Mult.: $\gamma(\theta)$ and full Doppler-shift. A ₂ =+0.29 4, A ₄ =-0.10 6.
863.0 [‡] @ 10		3397.0	(21/2)	2534.0	(17/2)			
991.2 8	32.0	2102.1	13/2 ⁽⁻⁾	1111.4	13/2 ⁺			
1111.4 3	100.0	1111.4	13/2 ⁺	0.0	9/2 ⁺			
1220.6 3	8.4	1220.6	(11/2) ⁺	0.0	9/2 ⁺			
1288.9 8	38.0	2400.5	17/2 ⁺	1111.4	13/2 ⁺	Q		A ₂ =+0.35 3, A ₄ =-0.15 3.
1426.2 10	≈7.0	1658.1	11/2 ⁺	231.69	7/2 ⁺			
1657.9 10	13.0	1658.1	11/2 ⁺	0.0	9/2 ⁺			

[†] At $\theta=55^\circ$ and E(α)=38 MeV.

[‡] This γ ray is either relocated or non-existent in Adopted dataset based on more recent ⁷⁶Ge(¹³C,4n γ) study by **2012KuZX**.

[#] From $\gamma(\theta)$ data.

@ Placement of transition in the level scheme is uncertain.

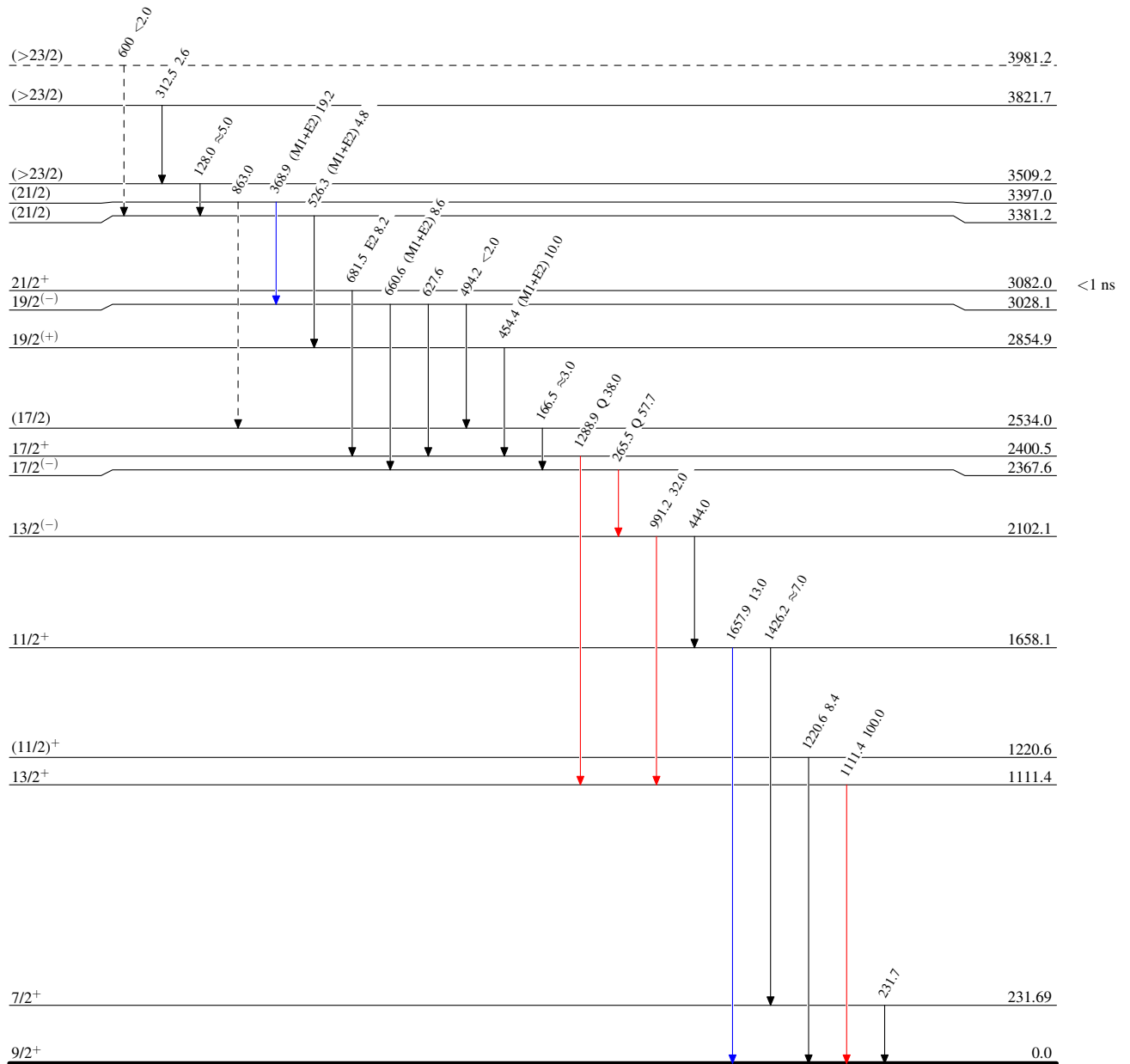
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Level Scheme

Intensities: Relative I _{γ}

Legend

- ▶ I _{γ} < 2% × I _{γ} ^{max}
- ▶ I _{γ} < 10% × I _{γ} ^{max}
- ▶ I _{γ} > 10% × I _{γ} ^{max}
- - -▶ γ Decay (Uncertain)



⁸⁵Sr₄₇