

⁸⁴Kr(p,γ) 1982Fa09

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

1982Fa09 (also 1983Bi06): E=1.85-2.87 MeV, natural Kr target, Ge(Li) detectors, measured γ spectra and coincidences, lifetimes by DSA.

⁸⁵Rb Levels

E(level)	J ^π †	T _{1/2} ‡	Comments
0.0	5/2 ⁻		
151.184 12	3/2 ⁻	0.65 ns 14	
281.007 17	1/2 ⁻	39 ps 7	
731.851 17	3/2 ⁻	4.2 ps 9	
868.64 3	7/2 ⁻	2.2 ps 6	
885.76 4	(1/2) ⁻	0.78 ps +17-10	
919.74 3	(5/2) ⁻	0.46 ps 4	T _{1/2} : possibly overestimated by about 0.15 ps due to side feedings.
950.95 3	(5/2) ⁺	2.8 ps 6	
1175.59 4	(5/2 ⁻ ,3/2 ⁻)	0.66 ps 13	
1295.92 4	(3/2) ⁻	0.17 ps 9	
1384.35 10	(5/2) ⁻	1.0 ps 5	T _{1/2} : questionable due to a possible double placement of 1233γ, second from a 1747 level.
1444.88 20	(7/2) ⁻		
1496.42 7	(1/2) ⁻	0.35 ps +28-21	
1631.14 6	(5/2) ⁻	0.35 ps +21-14	T _{1/2} : a contribution from a 763γ of ⁸³ Rb is also present.
1668.65 7	(1/2,3/2,5/2)	0.18 ps 11	
1792.29 8	(1/2) ⁻	≤0.12 ps	
1929.7 3	(≤7/2)	≤0.10 ps	
1950.05 14	(1/2)	0.3 ps 3	
2028.13 12	(≤7/2)	0.9 ps 4	
2039.5 3			
2087.6 6	(1/2,3/2,5/2)	≤0.3 ps	
2202.4 5	(≤7/2)	0.3 ps +3-2	
2373.5 4	(≤7/2)	0.07 ps +28-7	

† As listed in 1982Fa09, taken mostly from assignments in 1980Te01 NDS evaluation. See Adopted Levels for more definite assignments for some of the levels.

‡ From DSA (1982Fa09,1983Bi06).

γ(⁸⁵Rb)

E _i (level)	J _i ^π	E _γ	I _γ	E _f	J _f ^π
151.184	3/2 ⁻	151.182 13	100	0.0	5/2 ⁻
281.007	1/2 ⁻	129.83 2	100	151.184	3/2 ⁻
		281.01 5	0.58 6	0.0	5/2 ⁻
731.851	3/2 ⁻	450.85 2	67	281.007	1/2 ⁻
		580.69 15	7	151.184	3/2 ⁻
		731.84 2	100	0.0	5/2 ⁻
868.64	7/2 ⁻	717.8 †#		151.184	3/2 ⁻
		868.63 3	100	0.0	5/2 ⁻
885.76	(1/2) ⁻	734.57 3	100	151.184	3/2 ⁻
919.74	(5/2) ⁻	640 †#		281.007	1/2 ⁻
		768.55 3	100	151.184	3/2 ⁻
		919.72 5	45	0.0	5/2 ⁻

Continued on next page (footnotes at end of table)

$^{84}\text{Kr}(p,\gamma)$ **1982Fa09** (continued) $\gamma(^{85}\text{Rb})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ	I_γ	E_f	J_f^π	Comments
950.95	(5/2 ⁺)	670 [†] #		281.007	1/2 ⁻	
		799.65 8	11	151.184	3/2 ⁻	
		950.96 3	100	0.0	5/2 ⁻	
1175.59	(5/2 ⁻ , 3/2 ⁻)	896 [†] #		281.007	1/2 ⁻	
		1024.38 4	100	151.184	3/2 ⁻	
		1175.78 14	23	0.0	5/2 ⁻	
1295.92	(3/2 ⁻)	1014.98 21	13	281.007	1/2 ⁻	
		1144.72 4	100	151.184	3/2 ⁻	
		1295.95 9	48	0.0	5/2 ⁻	
1384.35	(5/2 ⁻)	464.66 11	93 [‡]	919.74	(5/2 ⁻)	
		1233.01 20	100 [‡]	151.184	3/2 ⁻	
1444.88	(7/2 ⁻)	576.20 20		868.64	7/2 ⁻	
		1445.2 6		0.0	5/2 ⁻	
1496.42	(1/2 ⁻)	576.30 20		919.74	(5/2 ⁻)	
		610.3 3	20	885.76	(1/2 ⁻)	
		1345.29 7	100	151.184	3/2 ⁻	
		1496.7 6	4	0.0	5/2 ⁻	
1631.14	(5/2 ⁻)	680 [†] #		950.95	(5/2 ⁺)	
		762.50 5	100	868.64	7/2 ⁻	
		1631.1 5	>30	0.0	5/2 ⁻	I_γ : a contribution from a 763 γ of ^{83}Rb is present. I_γ : see comment on $I_\gamma(763)$.
1668.65	(1/2, 3/2, 5/2)	1387.63 6	100	281.007	1/2 ⁻	
1792.29	(1/2 ⁻)	1641.09 8	100	151.184	3/2 ⁻	
1929.7	(\leq 7/2)	1778.53 25	100	151.184	3/2 ⁻	
1950.05	(1/2)	1798.84 14	70	151.184	3/2 ⁻	
		1950.1 5	100	0.0	5/2 ⁻	
2028.13	(\leq 7/2)	1108.44 19	61	919.74	(5/2 ⁻)	
		1876.90 14	100	151.184	3/2 ⁻	
2039.5		1758.5 3	100	281.007	1/2 ⁻	
2087.6	(1/2, 3/2, 5/2)	1806.6 6	100	281.007	1/2 ⁻	
2202.4	(\leq 7/2)	2051.2 5	100	151.184	3/2 ⁻	
2373.5	(\leq 7/2)	2222.3 4	100	151.184	3/2 ⁻	

[†] Tentative transition in level scheme figure of **1982Fa09**, not listed in the authors' table.

[‡] Value is questionable because a contribution to $I_\gamma(1233)$ from the 1747 level is possible.

Placement of transition in the level scheme is uncertain.

$^{84}\text{Kr}(p,\gamma)$ 1982Fa09

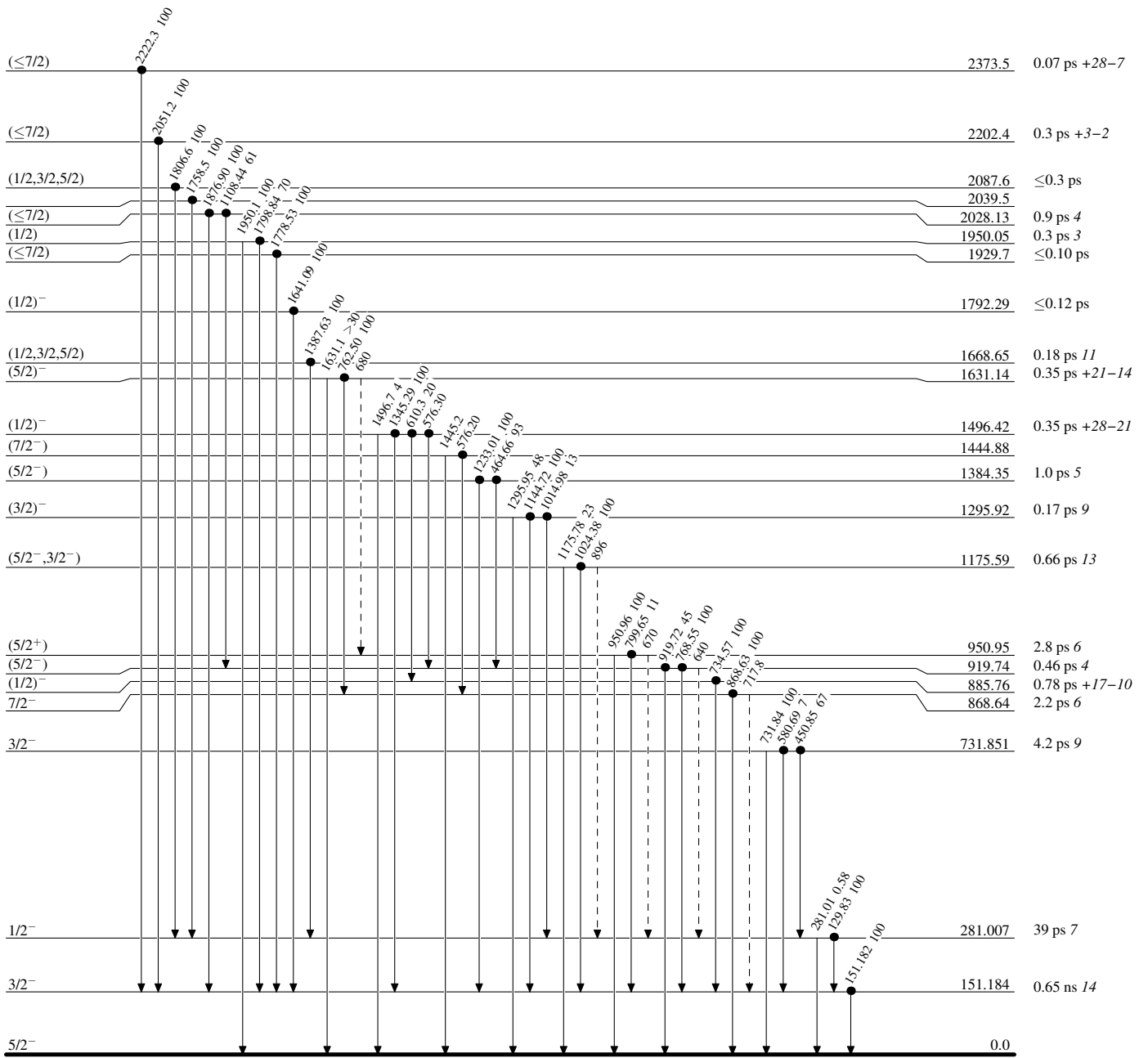
Legend

Level Scheme

Intensities: Relative photon branching from each level

-----▶ γ Decay (Uncertain)

● Coincidence



$^{85}_{37}\text{Rb}_{48}$