Coulomb excitation 1985Br18

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. K. Tuli, E. Browne	NDS 157, 260 (2019)	1-Mar-2019

2001Me20: ^{26}Mg(^{82}Kr,^{82}Kr′γ), E=240.7 MeV, measured $\gamma(\theta$,H), $T_{1/2}$ from Doppler-broadened line shape, deduced g factors, scin.
1985Br18: ^{208}Pb(^{82}Kr,^{82}Kr′γ), E=377 MeV. Ge(Li), FWHM=10 keV at 777 keV and 17 keV at 2000 keV. Discussed their results within several models.
1982Ke01: ^{27}Al(^{82}Kr,^{82}Kr′γ), (nat)Ge(^{82}Kr,^{82}Kr′γ), E=115 MeV. Ge(Li), FWHM=2.0 keV at 1.33 MeV.
Other: 1957He48.

^{82}Kr Levels

E(level)	J^π †	$T_{1/2}$ ‡	Comments
0	0^+		
777.0	2^+	4.45 ps *18*	B(E2)↑=0.225 *9*; g=+0.40 *2*
1475.0	2^+	≈12 ps	
1488.0 *1*	0^+	9.7 ps *33*	
1821.0	4^+	0.67 ps *25*	g=+0.29 *20* g-factor derived using $T_{1/2}$=0.67 ps *25*.
1957.0	(2^+)	1.1 ps *8*	
2172.0	0^+		
2427.0	(4^+)	0.57 ps *16*	
2450.0	$0^{(+)}$,1,2	≈0.17 ps	
2556.0	(4^+)	1.4 ps *4*	
2656.0	$1,2^{(+)}$	0.03 ps *1*	
2920.0	(6^+)	0.8 ps *4*	
3168.0	(6^+)	0.7 ps *4*	

† From Adopted Levels.
‡ from B(E2) measured in Coulomb excitation using branching ratio from Adopted Levels.

$\gamma(^{82}Kr)$

B(E2) deduced by 1985Br18 if B(E2)↑(777)=0.225 *9* as measured by 1982Ke01.

E_γ †	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π	Mult.	δ @	α #	Comments
606	3.8 *6*	2427.0	(4^+)	1821.0	4^+				B(E2)↓=0.084 *21*
698	20 *3*	1475.0	2^+	777.0	2^+				B(E2)↓=0.016 *8*
711	7.5 *12*	1488.0	0^+	777.0	2^+				B(E2)↓=0.032 *11*
777	100	777.0	2^+	0	0^+				
952	1.40 *24*	2427.0	(4^+)	1475.0	2^+				B(E2)↓=0.019 *5*
975	1.62 *34*	2450.0	$0^{(+)}$,1,2	1475.0	2^+				B(E2)↓=0.21 *+35−18*
1044	28 *3*	1821.0	4^+	777.0	2^+				B(E2)↓=0.0068 *25*
1081	2.6 *4*	2556.0	(4^+)	1475.0	2^+				B(E2)↓=0.019 *5*
1099	3.0 *5*	2920.0	(6^+)	1821.0	4^+				B(E2)↓=0.042 *22*
1180	5.1 *8*	1957.0	(2^+)	777.0	2^+	(M1+E2)	≈1.4	≈3.42×10^{-4}	B(E2)↓=0.015 *8* α(K)≈0.000299; α(L)≈3.17×10^{-5}; α(M)≈5.13×10^{-6} α(N)≈5.19×10^{-7}; α(IPF)≈5.20×10^{-6}
1347	0.87 *15*	3168.0	(6^+)	1821.0	4^+				B(E2)↓=0.016 *9*
1395	0.42 *9*	2172.0	0^+	777.0	2^+				B(E2)↓=0.005 *4*

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Coulomb excitation 1985Br18 (continued)

$\gamma(^{82}Kr)$ (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	δ[@]	α[#]	Comments
1475	8.8 *10*	1475.0	2^+	0	0^+				B(E2)↓=0.00025 *13*
1650	2.02 *26*	2427.0	(4^+)	777.0	2^+				B(E2)↓=0.0025 *7*
1879	1.60 *23*	2656.0	$1,2^{(+)}$	777.0	2^+	[M1+E2]	≈1.85	$\approx 3.75\times10^{-4}$	B(E2)↓=0.011 *4* α(K)≈0.0001185; α(L)≈1.244×10^{-5}; α(M)≈2.01×10^{-6} α(N)≈2.04×10^{-7}; α(IPF)≈0.000242
1957	0.87 *14*	1957.0	(2^+)	0	0^+				B(E2)↓=0.0007 *5*

[†] From 1985Br18.
[‡] Relative intensity at θ=0° (1985Br18).
[#] Additional information 1.
[@] If No value given it was assumed δ=1.00 for E2/M1, δ=1.00 for E3/M2 and δ=0.10 for the other multipolarities.

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Level Scheme

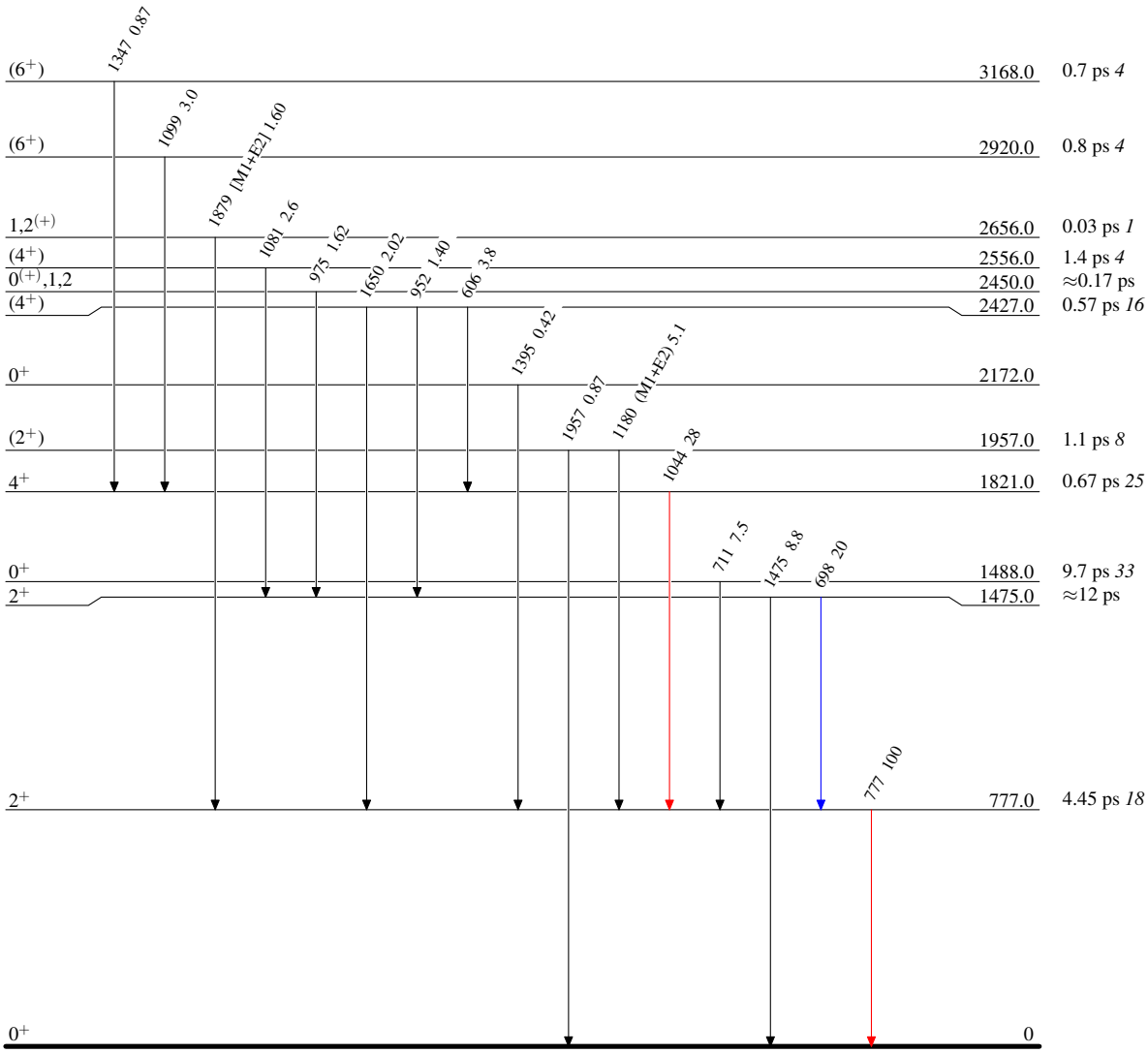
Intensities: Relative I_γ

Legend

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

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

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



$^{82}_{36}Kr_{46}$