^{41}K(n,γ):resonance 2006MuZX

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen[#] and Balraj Singh	NDS 135, 1 (2016)	31-May-2016

^{41}K g.s. $J^{\pi}=3/2^{+}$.

2006MuZX: Compilation of thermal neutron induced σ and resonance parameter data for nuclei of Z=1-100.

Others: 1970StZZ, 1973Si32 (also 1971SiYI) (E=0-400 keV), 1972Ki24, 1984Ma40 (E=11-9850 eV, 2.6-2000 keV).

^{42}K Levels

$2g\Gamma_n=(2J+1)\Gamma_n$.

All resonance parameters including resonance neutron energies, J^{π}, L, $g\Gamma_n$ and Γ_γ are directly adopted from the compilation in 2006MuZX, unless otherwise indicated.

E(level)[†]	$2g\Gamma_n$	L	E_n(lab) (keV)	Comments
7532.9?		0	−0.946	Γ_γ=(0.94) eV.
7534.67 *11*			0.8960 *9*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=5.17 *3*.
7535.78 *11*	4.18 eV *4*	0	2.030 *2*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=198.8 *11*. Γ_γ=0.352 eV *4*.
7536.93 *11*	0.24 eV *3*	1	3.203 *3*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=112.4 *3*.
7537.72 *11*			4.012 *4*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=89.0 *3*.
7539.18 *11*	92.2 eV *18*	0	5.514 *6*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=260 *26*. Γ_γ=0.70 eV *7*.
7539.67 *11*			6.012 *6*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=86.4 *7*.
7540.32 *11*			6.679 *7*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=3.20 *20*.
7541.60 *11*			7.989 *8*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=21.7 *6*.
7542.07 *11*			8.475 *9*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=117.7 *4*.
7544.48 *11*		1	10.940 *10*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=96.3 *24*.
7544.76 *11*			11.230 *10*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=9.6 *6*.
7546.82 *11*	5.9 eV *12*	1	13.341 *13*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=214.0 *22*. Γ_γ=0.369 eV *4*.
7548.46 *11*	4.8 eV *12*	1	15.022 *15*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=137.6 *23*. Γ_γ=0.389 eV *7*.
7548.86 *11*			15.430 *15*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=14.0 *9*.
7549.04 *11*			15.620 *15*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=135.3 *21*.
7550.11 *11*	256 eV *11*	0	16.710 *17*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=293 *12*. Γ_γ=0.78 eV *3*.
7551.36 *11*			17.990 *17*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=144 *3*.
7552.04 *11*			18.690 *18*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=11.0 *11*.
7553.24 *11*			19.920 *20*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=301 *3*.
7553.61 *11*	32.6 eV *8*	1	20.298 *20*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=266 *4*. Γ_γ=0.722 eV *12*.
7558.31 *11*	110 eV *21*	[0]	25.118 *25*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=162 *7*. Γ_γ=1.30 eV *5*.
7560.18 *11*			27.03 *3*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=46 *3*.
7560.27 *11*	23.0 eV *8*	1	27.12 *3*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=255 *6*. Γ_γ=0.297 eV *8*.
7561.43 *11*			28.31 *3*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=43.5 *24*.
7566.12 *11*			33.12 *3*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=140 *5*.
7566.20 *11*			33.20 *3*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=231 *6*.
7566.85 *11*	3.42 eV *22*		33.86 *3*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=187 *8*.
7568.49 *12*			35.54 *4*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=94 *5*.
7571.43 *12*	830 eV *15*	0	38.56 *4*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=942 *41*. Γ_γ=1.51 eV *7*.
7572.33 *12*			39.48 *4*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=28 *5*.
7575.13 *12*	270 eV *130*	[0]	42.35 *4*	$g\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=570 *19*.

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^{41}K(n,γ):resonance 2006MuZX (continued)

^{42}K Levels (continued)

E(level)†	2gΓ_n	L	E_n(lab) (keV)	Comments
				Γ_γ=0.92 eV *3*.
7575.72 *12*			42.95 *4*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=133 *6*.
7577.05 *12*			44.32 *4*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=123 *7*.
7577.14 *12*			44.41 *4*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=166 *7*.
7580.12 *12*			47.46 *5*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=45 *5*.
7580.35 *12*			47.70 *5*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=333 *9*.
7580.97 *12*			48.33 *5*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=126 *7*.
7582.01 *12*			49.40 *5*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=271 *9*.
7582.80 *12*			50.21 *5*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=154 *8*.
7583.95 *12*			51.39 *5*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=83 *7*.
7585.39 *12*			52.86 *5*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=238 *9*.
7585.69 *12*			53.17 *5*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=30 *6*.
7586.46 *12*			53.96 *5*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=220 *9*.
7587.90 *12*	80 eV *24*	1	55.43 *6*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=210 *11*.
				Γ_γ=0.242 eV *13*.
7589.67 *12*			57.25 *6*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=265 *11*.
7590.60 *12*	270 eV *26*	[0]	58.20 *6*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=388 *24*.
				Γ_γ=1.04 eV *6*.
7591.51 *12*			59.13 *6*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=231 *11*.
7594.76 *13*			62.46 *6*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=170 *10*.
7595.23 *13*			62.94 *6*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=185 *10*.
7595.50 *13*	47 eV	1	63.22 *6*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=124 *10*.
				Γ_γ=0.33 eV *3*.
7597.89 *13*			65.67 *7*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=191 *10*.
7599.27 *13*	190 eV	1	67.08 *7*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=265 *22*.
				Γ_γ=0.43 eV *4*.
7599.94 *13*			67.77 *7*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=211 *11*.
7600.41 *13*			68.25 *7*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=246 *13*.
7602.56 *13*	46.6 eV *5*	1	70.45 *7*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=242 *17*.
				Γ_γ=0.39 eV *3*.
7602.89 *13*			70.79 *7*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=312 *14*.
7603.90 *13*			71.83 *7*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=185 *11*.
7607.14 *13*			75.15 *8*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=415 *19*.
7607.49 *13*	420 eV *120*	1	75.50 *8*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=163 *24*.
				Γ_γ=0.44 eV *7*.
7609.18 *13*			77.24 *8*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=213 *14*.
7610.95 *13*			79.05 *8*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=295 *18*.
7611.51 *13*			79.62 *8*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=53.1 *26*.
7611.71 *13*	710 eV *120*	1	79.83 *8*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=564 *76*.
				Γ_γ=0.90 eV *12*.
7614.19 *14*			82.37 *8*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=217 *14*.
7614.93 *14*			83.13 *9*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=294 *18*.
7615.21 *14*	360 eV *120*	1	83.41 *8*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=601 *29*.
				Γ_γ=0.69 eV *3*.
7617.95 *14*			86.22 *9*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=138 *14*.
7620.11 *14*			88.44 *9*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=140 *15*.
7622.15 *14*	130 eV *60*	1	90.53 *9*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=251.8 *21*.
				Γ_γ=0.41 eV *3*.
7622.98 *14*			91.38 *9*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=6.5×10^{02} *3*.
7625.14 *14*			93.59 *9*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=229 *19*.
7626.42 *14*			94.90 *10*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=173 *18*.
7628.19 *15*			96.71 *10*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=149 *18*.
7628.48 *15*			97.01 *10*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=217 *21*.
7628.72 *15*			97.26 *10*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=328 *21*.
7630.24 *15*			98.81 *10*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=210 *22*.
7631.99 *15*	450 eV *150*	1	100.61 *10*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=526 *41*.
				Γ_γ=0.85 eV *7*.

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^{41}K(n,γ):resonance 2006MuZX (continued)

^{42}K Levels (continued)

E(level)[†]	2gΓ_n	L	E_n(lab) (keV)	Comments
7632.67 *15*			101.30 *11*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=3.6×10^{02} *3*.
7634.80 *15*			103.49 *11*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=133 *19*.
7636.71 *15*			105.44 *11*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=209 *23*.
7637.84 *15*			106.60 *11*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=275 *24*.
7639.84 *15*			108.65 *11*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=186 *23*.
7641.06 *15*			109.90 *11*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=2.7×10^{02} *3*.
7641.55 *15*			110.40 *11*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=6.1×10^{02} *4*.
7643.89 *15*			112.80 *11*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=74 *21*.
7645.35 *15*			114.30 *11*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=1.6×10^{02} *3*.
7647.11 *15*			116.10 *11*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=3.1×10^{02} *3*.
7647.4 *3*	590 eV *200*	1	116.44 *24*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=550 *56*. Γ_γ=0.63 eV *6*.
7651.89 *16*	420 eV *90*		121.00 *12*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=1415 *65*.
7652.48 *15*			121.60 *11*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=1619 *71*.
7653.16 *16*			122.30 *12*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=157 *28*.
7654.72 *16*			123.90 *12*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=243 *31*.
7657.16 *16*			126.40 *12*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=690 *76*.
7657.46 *17*			126.70 *13*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=952 *60*.
7658.82 *17*			128.10 *13*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=512 *37*.
7660.09 *17*			129.40 *13*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=472 *37*.
7662.53 *17*			131.90 *13*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=640 *44*.
7663.70 *17*			133.10 *13*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=372 *36*.
7664.38 *17*			133.80 *13*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=295 *36*.
7664.87 *17*			134.30 *13*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=363 *37*.
7666.24 *18*			135.70 *14*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=284 *34*.
7669.26 *18*			138.80 *14*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=454 *43*.
7671.31 *18*			140.90 *14*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=304 *36*.
7674.53 *18*			144.20 *14*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=454 *44*.
7675.71 *18*			145.40 *15*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=193 *36*.
7676.49 *18*			146.20 *15*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=1163 *57*.
7680.10 *18*			149.90 *15*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=198 *50*.
7680.59 *18*			150.40 *15*	g$\Gamma_n\Gamma_\gamma/\Gamma$ (meV)=834 *56*.

[†] From $E_{c.m.}$+S(n) where S(n)=7533.80 *11* (2012Wa38) and $E_{c.m.}$ deduced from E_n(lab) in 2006MuZX.