

⁴³Ca(n,γ),(n,n):resonances 2006MuZX

Type	Author	History	Citation	Literature Cutoff Date
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2006MuZX: Compilation of thermal neutron induced σ and resonance parameter data for nuclei of Z=1-100.
 $J^\pi(^{43}\text{Ca g.s.})=7/2^-$.

⁴⁴Ca Levels

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

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) [†]	J^π [‡]	T _{1/2}	L	E _n (lab) (keV)	Comments
11130.22? 23	3 ⁻	0.75 eV	0	-1.068	E(level): fictitious level.
11132.73 30	4 ⁻	1.13 eV	0	1.5 2	2g Γ_n =231 eV 3.
11134.44 23			1	3.247 2	g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.0022 eV 10.
11134.52 23	(4) ⁻	0.67 eV	0	3.330 2	g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.16 eV 2.
11135.49 23	4 ⁻	0.522 eV 7	0	4.327 1	2g Γ_n =104 eV 7. g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.31 eV 3.
11135.72 23			1	4.558 2	g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.09 eV 1.
11136.33 23	3 ⁻	1.23 eV 10	0	5.179 8	2g Γ_n =78 eV 13. g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.53 eV 5.
11136.35 23	4 ⁻		0	5.202 4	2g Γ_n <8 eV.
11138.07 23	3 ⁻	0.69 eV 7	0	6.965 6	2g Γ_n =25 eV 10. g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.30 eV 3.
11139.93 23	4 ⁻	0.68 eV 7	0	8.860 18	2g Γ_n =300 eV 25. g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.38 eV 4.
11141.00 23			1	9.963 4	g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.032 eV 10.
11141.22 23			1	10.180 5	g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.03 eV 1.
11141.52 23	(4) ⁻	0.76 eV 10	0	10.490 5	2g Γ_n =1 eV. g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.23 eV 2.
11143.08 23				12.09 1	g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.16 eV 2.
11143.31 23			[0]	12.32 1	g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.22 eV 2.
11143.77 23			1	12.79 1	g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.11 eV 1.
11144.39 23			[0]	13.43 1	g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.26 eV 3.
11144.9 5	4 ⁻	1.0 eV 1	0	13.97 40	2g Γ_n =357 eV 55. g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.57 eV 6.
11145.29 23	(3) ⁻	0.8 eV 9	0	14.35 1	2g Γ_n =26.5 eV 9.0. g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.35 eV 4.
11145.65 23			1	14.72 1	g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.032 eV 10.
11146.04 23			1	15.11 1	g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.022 eV 10.
11146.19 23			1	15.27 1	g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.032 eV 10.
11147.53 23			0	16.64 1	g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.24 eV 3.
11149.99 24	4	0.66 eV 7	0	19.15 8	2g Γ_n =315 eV 90. g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.37 eV 4.
11150.62 23			1	19.80 1	g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.043 eV 10.
11151.10 23	(3) ⁻	0.80 eV 12	0	20.29 1	2g Γ_n (2) eV. g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.26 eV 3.
11152.19 23	(3) ⁻	0.79 eV 10	0	21.41 1	2g Γ_n =47 eV 7. g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.34 eV 4.
11152.71 23	(3)	0.5 eV	[1]	21.94 1	2g Γ_n (5) eV. g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.20 eV 3.
11153.68 23	(4) ⁻	0.57 eV 9	0	22.93 1	2g Γ_n =340 eV 120. g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.32 eV 4.
11154.10 23			1	23.36 1	g $\Gamma_n\Gamma_\gamma/\Gamma$ =0.20 eV 3.

Continued on next page (footnotes at end of table)

$^{43}\text{Ca}(n,\gamma),(n,n)$:resonances **2006MuZX** (continued) ^{44}Ca Levels (continued)

E(level) [†]	J ^{π‡}	T _{1/2}	L	E _n (lab) (keV)	Comments
11154.90 23	(2) ⁺	0.92 eV 12	1	24.18 1	2gΓ _n (2) eV.
11155.07 23	(3) ⁻	0.81 eV 12	0	24.35 1	gΓ _n Γ _γ /Γ=0.23 eV 3. 2gΓ _n =10 eV.
11155.29 23			1	24.58 1	gΓ _n Γ _γ /Γ=0.33 eV 4.
11155.41 23	(2) ⁺	0.74 eV 11	1	24.70 1	gΓ _n Γ _γ /Γ=0.032 eV 10. 2gΓ _n (2) eV.
11157.59 23				26.93 1	gΓ _n Γ _γ /Γ=0.19 eV 2.
11157.71 23	(4) ⁻	0.60 eV 8	0	27.05 1	gΓ _n Γ _γ /Γ=0.032 eV 10. 2gΓ _n =730 eV 170.
11157.99 23			0	27.34 1	gΓ _n Γ _γ /Γ=0.34 eV 4.
11158.69 23			1	28.05 1	gΓ _n Γ _γ /Γ=0.26 eV.
11158.84 23			1	28.21 1	gΓ _n Γ _γ /Γ=0.032 eV 10.
11160.27 23	(4) ⁻	0.66 eV 8	0	29.67 1	gΓ _n Γ _γ /Γ=0.15 eV 2. 2gΓ _n =225 eV 70.
11160.40 23	(4) ⁻	0.75 eV 10	0	29.80 1	gΓ _n Γ _γ /Γ=0.37 eV 4. 2gΓ _n (10) eV.
11161.47 23			1	30.90 1	gΓ _n Γ _γ /Γ=0.39 eV 4.
11161.65 23	(4) ⁻	0.66 eV 7	0	31.08 1	gΓ _n Γ _γ /Γ=0.10 eV 2. 2gΓ _n =180 eV 60.
11161.86 23			1	31.30 1	gΓ _n Γ _γ /Γ=0.37 eV 4.
11162.06 23	(4) ⁻	0.75 eV 9	0	31.50 1	gΓ _n Γ _γ /Γ=0.14 eV 2. 2gΓ _n (5) eV.
11162.89 23				32.35 1	gΓ _n Γ _γ /Γ=0.36 eV 4.
11164.00 23				33.49 1	gΓ _n Γ _γ /Γ=0.24 eV 3.
11165.39 23				34.91 1	gΓ _n Γ _γ /Γ=0.20 eV 3.
11165.91 23				35.44 1	gΓ _n Γ _γ /Γ=0.25 eV 3.
11166.61 23				36.16 1	gΓ _n Γ _γ /Γ=0.065 eV 10.
11166.74 23				36.29 1	gΓ _n Γ _γ /Γ=0.24 eV 3.
11167.34 23				36.90 1	gΓ _n Γ _γ /Γ=0.27 eV 3.
11167.58 23	(4) ⁻	1.4 eV 2	0	37.15 1	gΓ _n Γ _γ /Γ=0.24 eV 3. 2gΓ _n =280 eV 55.
11170.05 23				39.67 1	gΓ _n Γ _γ /Γ=0.79 eV 9. gΓ _n Γ _γ /Γ=0.22 eV 3.

[†] From E_{c.m.}+S(n) where S(n)=11131.27 23 (**2011AuZZ**) and E_{c.m.} deduced from E_n(lab) in **2006MuZX**.

[‡] L=0 gives 3⁻ or 4⁻ and L=1 gives 2⁺,3⁺,4⁺,5⁺ with further restriction from analysis of resonance data.