^{92}Zr(n,γ) E=res 2010Ta09,2006MuZX,1976Bo31

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 112, 1163 (2011)	15-Dec-2010

2010Ta09: E(n)=1 eV −1 MeV after moderation of E=thermal to 250 MeV neutrons produced by spallation using 20 GeV proton beam and Pb target At n_TOF facility at CERN; 91.4% enriched ^{92}Zr oxide target; two C_6D_6 liquid scintillator cells to detect prompt γ cascade following capture; ^{6}Li on mylar for n flux monitor; measured E(res), Γ_γ, capture kernel; analysis (using SAMMY code) with Γ_n fixed At values from 1976Bo31 or 2006MuZX. Deduced J, L, Maxwellian averaged cross sections for E(n)≤40 keV.

1976Bo31: E(n)=2-120 keV; 96.67% ^{92}Zr target, ^{6}Li glass scin and NE110 proton recoil counter, 78.203 min flight path for transmission experiment; 94.41% ^{92}Zr target, 2 non-hydrogenous liquid scintillators, ^{6}Li glass scintillator monitor for capture measurement; measured E(res), capture kernel, Γ_γ, Γ_n; identified s-wave resonances based on presence of definite resonance-potential interference; deduced g=(2J+1)/2.

^{93}Zr Levels

Values of resonance parameters (Γ_γ, gΓ_n or Γ_n, and the capture kernel g$\Gamma_n\Gamma_\gamma/(\Gamma_n+\Gamma_\gamma)$, where g=(2J+1)/2, are given In comments. Note that values of the capture kernels from 2010Ta09 are consistently≈20% lower than those from 1976Bo31 (Γ_γ values≈15% smaller), probably a benefit from the greatly reduced n sensitivity of the capture measurements by 2010Ta09. The evaluator adopts Γ_n from the evaluation by 2006MuZX In those instances when the datum from 1976Bo31 differs slightly.

E(level)[†]	J$^\pi$[‡]	L[‡]	E(n)(lab) (keV)[#]	Comments
6736.391	3/2$^-$	1	2.01291 *3*	Γ_γ=0.36 eV (2006MuZX); Γ_n=0.0260 eV *12* (2010Ta09, assuming the value (0.260 *12*)In footnote b of table II is misprinted); g$\Gamma_n\Gamma_\gamma/(\Gamma_n+\Gamma_\gamma)$=0.0443 eV *11* (2010Ta09). Other Γ_n: 0.0265 eV *15* (1976Bo31).
6737.060	1/2$^+$	0	2.6894 *4*	Γ_γ=0.115 eV *2* (2010Ta09); Γ_n=25.2 eV *3* (1976Bo31); g$\Gamma_n\Gamma_\gamma/(\Gamma_n+\Gamma_\gamma)$=0.1150 eV *20* (2010Ta09).
6738.477	3/2$^-$	1	4.1212 *1*	Γ_γ=0.250 eV *4* (2010Ta09); Γ_n=3.0 eV *2* (2006MuZX); g$\Gamma_n\Gamma_\gamma/(\Gamma_n+\Gamma_\gamma)$=0.460 eV *6* (2010Ta09).
6738.990	1/2$^+$	0	4.6396 *5*	Γ_γ=0.100 eV *3* (2010Ta09); Γ_n=15.2 eV *1* (1976Bo31); g$\Gamma_n\Gamma_\gamma/(\Gamma_n+\Gamma_\gamma)$=0.100 eV *3* (2010Ta09).
6739.004			4.65369[&] *3*	g$\Gamma_n\Gamma_\gamma/(\Gamma_n+\Gamma_\gamma)$=0.009 eV *8* (2010Ta09).
6739.391	1/2$^-$	1	5.0457 *1*	Γ_γ=0.165 eV *4* (2010Ta09); Γ_n=1.07 *7* eV (1976Bo31); g$\Gamma_n\Gamma_\gamma/(\Gamma_n+\Gamma_\gamma)$=0.142 eV *3* (2010Ta09).
6740.968	3/2$^-$	1	6.6389 *1*	Γ_γ=0.224 eV *5* (2010Ta09); Γ_n=0.98 *4* eV (1976Bo31); g$\Gamma_n\Gamma_\gamma/(\Gamma_n+\Gamma_\gamma)$=0.363 eV *7* (2010Ta09).
6741.138	1/2$^+$	0	6.811 *3*	Γ_γ=0.130 eV *12* (2010Ta09); Γ_n=50 eV assumed by 2010Ta09 (cf. 73.0 eV *5* (1976Bo31, 2006MuZX)); (2J+1)(g$\Gamma_n\Gamma_\gamma/2(\Gamma_n+\Gamma_\gamma)$=0.132 eV *12* (2010Ta09) (cf. 0.36 *4* (1976Bo31, 2006MuZX)).
6743.150	1/2$^-$	1	8.8450 *4*	Γ_γ=0.110 eV *6* (2010Ta09); Γ_n=4.00 eV *15* (1976Bo31); g$\Gamma_n\Gamma_\gamma/(\Gamma_n+\Gamma_\gamma)$=0.107 eV *5* (2010Ta09).
6743.438	1/2$^+$	0	9.1367 *5*	Γ_γ=0.098 eV *5* (2010Ta09); Γ_n=6.3 eV *1* (2006MuZX); g$\Gamma_n\Gamma_\gamma/(\Gamma_n+\Gamma_\gamma)$=0.097 eV *5* (2010Ta09).
6744.115	3/2$^-$	1	9.8210 *3*	Γ_γ=0.085 eV *4* (2010Ta09); Γ_n=1.4 eV *1* (1976Bo31); g$\Gamma_n\Gamma_\gamma/(\Gamma_n+\Gamma_\gamma)$=0.160 eV *7* (2010Ta09).
6746.215	3/2$^-$	1	11.9437 *3*	Γ_γ=0.130 eV *6* (2010Ta09); Γ_n=1.60 eV *5* (1976Bo31); g$\Gamma_n\Gamma_\gamma/(\Gamma_n+\Gamma_\gamma)$=0.240 eV *10* (2010Ta09).
6746.284	1/2$^-$	1	12.0131 *7*	Γ_γ=0.200 eV *10* (2010Ta09); Γ_n=9.0 eV *1* (1976Bo31); g$\Gamma_n\Gamma_\gamma/(\Gamma_n+\Gamma_\gamma)$=0.195 eV *10* (2010Ta09).
6747.325	3/2$^-$	1	13.0657 *4*	Γ_γ=0.121 eV *6* (2010Ta09); Γ_n=1.5 eV *2* (1976Bo31); g$\Gamma_n\Gamma_\gamma/(\Gamma_n+\Gamma_\gamma)$=0.224 eV *10* (2010Ta09).
6748.672	1/2$^-$	1	14.427 *1*	Γ_γ=0.205 eV *12* (2010Ta09); Γ_n=14.0 eV *7* (1976Bo31); g$\Gamma_n\Gamma_\gamma/(\Gamma_n+\Gamma_\gamma)$=0.202 eV *12* (2010Ta09).
6749.266	3/2$^-$	1	15.0279 *8*	J$^\pi$,L: 2010Ta09 list J=3/2 and L=0, which are incompatible. Evaluator assumes L is misprinted and adopts L=1 from 1976Bo31 and 2006MuZX.

Continued on next page (footnotes at end of table)

^{92}Zr(n,γ) E=res 2010Ta09,2006MuZX,1976Bo31 (continued)

^{93}Zr Levels (continued)

E(level)[†]	Jπ[‡]	L[‡]	E(n)(lab) (keV)[#]	Comments
				Γ_γ=0.057 eV *5* (2010Ta09); Γ_n=0.25 *10* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.098 eV *8* (2010Ta09).
6751.159			16.9410[&] *1*	$g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.020 eV *17* (2010Ta09).
6751.348	3/2$^-$	1	17.132 *1*	Γ_γ=0.147 eV *7* (2010Ta09); Γ_n=12.1 eV *2* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.290 eV *15* (2010Ta09).
6751.499			17.2846[&] *1*	$g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.018 eV *15* (2010Ta09).
6753.271	3/2$^-$	1	19.076 *1*	Γ_γ=0.166 eV *10* (2010Ta09); Γ_n=2.15 eV *15* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.308 eV *17* (2010Ta09).
6754.378	1/2$^+$	0	20.195 *1*	Γ_γ=0.215 eV *19* (2010Ta09); Γ_n=1.3 eV *3* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.185 eV *14* (2010Ta09).
6755.022	1/2		20.846 *1*	Γ_γ=0.341 eV *23* (2010Ta09); Γ_n=2.4 eV *2* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.299 eV *17* (2010Ta09). L,Jπ: L=0, J=1/2 is reported by 2010Ta09 but L=1, J=1/2 by 1976Bo31 and 2006MuZX; consequently, the evaluator does not adopt a parity.
6756.141	1/2$^-$	1	21.977 *1*	Γ_γ=0.237 eV *18* (2010Ta09); Γ_n=2.8 eV *3* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.218 eV *15* (2010Ta09).
6757.265	1/2$^+$	0	23.114 *10*	Γ_γ=0.150 eV *14* (2010Ta09); Γ_n=108 eV *3* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.150 eV *14* (2010Ta09).
6759.209			25.0782 *1*	$g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.030 eV *22* (2010Ta09).
6759.789	1/2$^+$	0	25.665 *4*	Γ_γ=0.077 eV *15* (2010Ta09); Γ_n=2.5 eV *5* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.075 eV *14* (2010Ta09).
6760.354			26.236 *1*	$g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.05 eV *4* (2010Ta09).
6760.888	3/2$^-$	1	26.776 *3*	Γ_γ=0.120 eV *12* (2010Ta09); Γ_n=1.15 eV *25* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.220 eV *21* (2010Ta09).
6761.433	1/2$^-$	1	27.327 *5*	Γ_γ=0.200 eV *24* (2010Ta09); Γ_n=22.5 eV *10* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.198 eV *24* (2010Ta09).
6762.196	3/2$^-$	1	28.098 *6*	Γ_γ=0.068 eV *14* (2010Ta09); Γ_n=12.5 eV *10* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.14 eV *3* (2010Ta09).
6762.264	1/2$^-$	1	28.167 *4*	Γ_γ=0.28 eV *4* (2010Ta09); Γ_n=6.0 eV *10* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.26 eV *3* (2010Ta09).
6762.378			28.282 *1*	$g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.08 eV *7* (2010Ta09).
6764.471	1/2$^+$	0	30.398 *7*	Γ_γ=0.073 eV *17* (2010Ta09); Γ_n=4.6 eV *7* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.072 eV *17* (2010Ta09).
6764.999	3/2$^-$	1	30.932 *3*	Γ_γ=0.241 eV *21* (2010Ta09); Γ_n=12.0 eV *5* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.47 eV *4* (2010Ta09).
6766.541	3/2$^-$	1	32.490 *3*	Γ_γ=0.310 eV *23* (2010Ta09); Γ_n=11.5 eV *10* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.60 eV *4* (2010Ta09).
6767.138	1/2$^+$	0	33.094 *9*	Γ_γ=0.100 eV *11* (2010Ta09); Γ_n=12.0 eV *10* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.100 eV *11* (2010Ta09).
6769.058	1/2$^-$	1	35.035 *20*	Γ_γ=0.290 eV *19* (2010Ta09); Γ_n=65 eV *1* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.289 eV *19* (2010Ta09).
6769.693	1/2$^-$	1	35.677 *12*	Γ_γ=0.42 eV *3* (2010Ta09); Γ_n=52 eV *1* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.41 eV *3* (2010Ta09).
6769.974	3/2$^-$	1	35.961 *7*	Γ_γ=0.234 eV *21* (2010Ta09); Γ_n=26.5 eV *5* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.46 eV *4* (2010Ta09).
6771.504	1/2$^-$	1	37.507 *7*	Γ_γ=0.187 eV *10* (2010Ta09); Γ_n=14 eV *3* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.185 eV *10* (2010Ta09).
6772.724 *45*	1/2$^-$	1	38.740 *10*	Γ_γ=0.125 eV *11* (2010Ta09); Γ_n=4.5 eV *15* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.121 eV *11* (2010Ta09).
6772.903	3/2$^-$	1	38.922 *8*	Γ_γ=0.100 eV *11* (2010Ta09); Γ_n=5 eV *1* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.200 eV *22* (2010Ta09).
6773.322	1/2$^-$	1	39.345 *9*	Γ_γ=0.44 eV *6* (2010Ta09); Γ_n=70 eV *6* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.44 eV *6* (2010Ta09).
6773.394	1/2$^+$	0	39.42 *4*	Γ_γ=0.120 eV *17* (2010Ta09); Γ_n=73 eV *6* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.120 eV *17* (2010Ta09).
6773.634	1/2$^-$,3/2$^-$	1[@]	39.66[@] *8*	$g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.05 eV *2* (1976Bo31).

Continued on next page (footnotes at end of table)

^{92}Zr(n,γ) E=res 2010Ta09,2006MuZX,1976Bo31 (continued)

^{93}Zr Levels (continued)

E(level)[†]	Jπ[‡]	L[‡]	E(n)(lab) (keV)[#]	Comments
6775.157	3/2⁻	1[@]	41.20[@] *8*	Γγ=0.235 eV *25* (2006MuZX); g(ΓnΓγ)/(Γn+Γγ)=0.46 eV *5* (2006MuZX).
6777.680	1/2⁻,3/2⁻	1[@]	43.75[@] *9*	Γγ=0.336 eV *20* (2006MuZX); gΓn=5 eV *2* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=0.32 eV *4* (1976Bo31).
6778.946	1/2⁻	1[@]	45.03[@] *9*	Γγ=0.38 eV *5* (2006MuZX); Γn=105 eV *8* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=0.37 eV *5* (2006MuZX).
6779.618	1/2⁻	1[@]	45.71[@] *9*	Γγ=0.30 eV *5* (2006MuZX); Γn=36 eV *6* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=0.30 eV *5* (1976Bo31).
6780.766	3/2⁻	1[@]	46.87[@] *9*	Γγ=0.74 eV *16* (2006MuZX); gΓn=530 eV *20* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=1.48 eV *16* (2006MuZX).
6781.458	1/2⁺	0[@]	47.57[@] *10*	Γγ=0.08 eV *3* (2006MuZX); Γn=120 eV *8* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=0.08 eV *3* (1976Bo31).
6781.735			47.85[@] *10*	g(ΓnΓγ)/(Γn+Γγ)=0.16 eV *4* (1976Bo31).
6783.150	1/2⁻,3/2⁻	1[@]	49.28[@] *10*	gΓn=12 eV *4* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=0.24 eV *4* (1976Bo31).
6783.665	1/2⁻,3/2⁻	1[@]	49.8[@] *1*	gΓn=11 eV *4* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=0.65 eV *8* (2006MuZX).
6786.484	1/2⁺	0[@]	52.65[@] *11*	Γγ=0.09 eV *3* (2006MuZX); gΓn=175 eV *20* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=0.09 eV *3* (1976Bo31).
6787.325	1/2⁻,3/2⁻	1[@]	53.50[@] *11*	gΓn=15 eV *6* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=0.30 eV *5* (1976Bo31).
6788.314	1/2⁻,3/2⁻	1[@]	54.50[@] *11*	gΓn=2 eV *1* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=0.27 eV *4* (1976Bo31).
6789.402	1/2⁻,3/2⁻	1[@]	55.60[@] *11*	gΓn=20 eV *5* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=0.18 eV *4* (1976Bo31).
6789.946	1/2⁺	0[@]	56.15[@] *11*	Γγ=0.07 eV *3* (2006MuZX); gΓn=90 eV *15* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=0.07 eV *3* (1976Bo31).
6790.292			56.50[@] *11*	g(ΓnΓγ)/(Γn+Γγ)=0.42 eV *5* (2006MuZX).
6791.925	1/2⁻,3/2⁻	1[@]	58.15[@] *12*	gΓn=45 eV *8* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=0.12 eV *4* (1976Bo31).
6792.439			58.67[@] *12*	g(ΓnΓγ)/(Γn+Γγ)=0.18 eV *4* (1976Bo31).
6792.835			59.07[@] *12*	g(ΓnΓγ)/(Γn+Γγ)=0.13 eV *4* (1976Bo31).
6794.408			60.66[@] *12*	g(ΓnΓγ)/(Γn+Γγ)=0.17 eV *3* (1976Bo31).
6794.685	3/2⁻	1[@]	60.94[@] *12*	Γγ=0.26 eV *3* (2006MuZX); gΓn=150 eV *16* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=0.51 eV *6* (2006MuZX).
6795.743			62.01[@] *12*	g(ΓnΓγ)/(Γn+Γγ)=0.30 eV *5* (1976Bo31).
6796.376	(1/2)⁻	1[@]	62.65[@] *13*	Γγ=0.177 eV *20* (2006MuZX); gΓn=40 eV *10* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=0.18 eV *4* (1976Bo31).
6797.138	3/2⁻	1[@]	63.42[@] *13*	Γγ=0.45 eV *5* (2006MuZX); gΓn=160 eV *10* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=0.89 eV *10* (2006MuZX).
6798.503			64.80[@] *13*	g(ΓnΓγ)/(Γn+Γγ)=0.13 eV *4* (1976Bo31).
6799.067			65.37[@] *13*	g(ΓnΓγ)/(Γn+Γγ)=0.22 eV *4* (1976Bo31).
6799.215			65.52[@] *13*	g(ΓnΓγ)/(Γn+Γγ)=0.23 eV *4* (1976Bo31).
6801.125	(3/2)⁻	1[@]	67.45[@] *13*	Γγ=0.44 eV *3* (2006MuZX); gΓn=28 eV *8* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=0.43 eV *6* (2006MuZX).
6802.797	(1/2)⁻	1[@]	69.14[@] *14*	Γγ=0.328 eV *25* (2006MuZX); gΓn=28 eV *8* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=0.33 eV *5* (1976Bo31).
6802.975			69.32[@] *14*	g(ΓnΓγ)/(Γn+Γγ)=0.19 eV *4* (1976Bo31).
6805.923			72.30[@] *14*	g(ΓnΓγ)/(Γn+Γγ)=0.19 eV *4* (1976Bo31).
6806.368	1/2⁻,3/2⁻	1[@]	72.75[@] *15*	gΓn=42 eV *8* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=0.38 eV *6* (2006MuZX).
6807.308			73.70[@] *15*	g(ΓnΓγ)/(Γn+Γγ)=0.23 eV *6* (1976Bo31).
6809.682			76.10[@] *15*	g(ΓnΓγ)/(Γn+Γγ)=0.34 eV *6* (2006MuZX).
6810.493			76.92[@] *15*	g(ΓnΓγ)/(Γn+Γγ)=0.28 eV *5* (1976Bo31).
6814.282	1/2⁻,3/2⁻	1[@]	80.75[@] *16*	gΓn=60 eV *15* (1976Bo31); g(ΓnΓγ)/(Γn+Γγ)=0.36 eV *6* (2006MuZX).

Continued on next page (footnotes at end of table)

^{92}Zr(n,γ) E=res 2010Ta09,2006MuZX,1976Bo31 (continued)

^{93}Zr Levels (continued)

E(level)[†]	Jπ[‡]	L[‡]	E(n)(lab) (keV)[#]	Comments
6815.479			81.96[@] *16*	$g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.33 eV *5* (1976Bo31).
6816.508	3/2−	1[@]	83.00[@] *17*	Γ_γ=0.22 eV *3* (2006MuZX); $g\Gamma_n$=220 eV *30* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.43 eV *6* (2006MuZX).
6816.656			83.15[@] *17*	$g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.25 eV *5* (1976Bo31).
6816.903	1/2−,3/2−	1[@]	83.40[@] *17*	$g\Gamma_n$=125 eV *20* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.19 eV *4* (1976Bo31).
6817.052			83.55[@] *17*	$g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.26 eV *5* (1976Bo31).
6818.189	3/2−	1[@]	84.70[@] *17*	Γ_γ=0.48 eV *6* (2006MuZX); $g\Gamma_n$=410 eV *30* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.96 eV *12* (2006MuZX).
6818.654			85.17[@] *17*	$g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.19 eV *4* (1976Bo31).
6819.089			85.61[@] *17*	$g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.44 eV *9* (2006MuZX).
6822.928	3/2−	1[@]	89.49[@] *18*	Γ_γ=0.74 eV *13* (2006MuZX); $g\Gamma_n$=1080 eV *40* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=1.48 eV *25* (2006MuZX).
6824.619	[3/2]−	1[@]	91.20[@] *18*	Γ_γ=0.62 eV *8* (2006MuZX); $g\Gamma_n$=30 eV *20* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.61 eV *16* (2006MuZX).
6826.548	3/2−	1[@]	93.15[@] *19*	Γ_γ=0.49 eV *8* (2006MuZX); $g\Gamma_n$=460 eV *50* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.98 eV *15* (2006MuZX).
6827.735	3/2−	1[@]	94.35[@] *19*	Γ_γ=0.29 eV *6* (2006MuZX); $g\Gamma_n$=380 eV *60* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.57 eV *12* (2006MuZX).
6832.187	1/2−	1[@]	98.85[@] *20*	Γ_γ=0.47 eV *5* (2006MuZX); $g\Gamma_n$=180 eV *25* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.47 eV *10* (2006MuZX).
6833.671	3/2−	1[@]	100.35[@] *20*	Γ_γ=0.68 eV *8* (2006MuZX); $g\Gamma_n$=550 eV *50* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=1.36 eV *16* (2006MuZX).
6835.699	1/2+	0[@]	102.4[@] *2*	$g\Gamma_n\approx$50 eV (1976Bo31).
6837.183	1/2−,3/2−	1[@]	103.90[@] *21*	$g\Gamma_n$=80 eV *40* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.49 eV *20* (2006MuZX).
6837.776	1/2−,3/2−	1[@]	104.50[@] *21*	$g\Gamma_n$=80 eV *40* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.22 eV *10* (1976Bo31).
6839.310	3/2−	1[@]	106.05[@] *21*	Γ_γ=1.32 eV *15* (2006MuZX); $g\Gamma_n$=1840 eV *80* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=2.6 eV *3* (2006MuZX).
6844.602	3/2−	1[@]	111.40[@] *22*	Γ_γ=0.06 eV *4* (2006MuZX); $g\Gamma_n$=300 eV *60* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.13 eV *7* (1976Bo31).
6846.403	3/2−	1[@]	113.22[@] *23*	Γ_γ=0.44 eV *9* (2006MuZX); $g\Gamma_n$=320 eV *60* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.89 eV *18* (2006MuZX).
6848.806	1/2−,3/2−	1[@]	115.65[@] *23*	$g\Gamma_n$=20 eV *10* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=0.13 eV *7* (1976Bo31).
6850.120	3/2−	1[@]	119.00[@] *24*	Γ_γ=0.95 eV *5* (2006MuZX); $g\Gamma_n$=1140 eV *60* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=1.9 eV *3* (1976Bo31).
6853.110	1/2−	1[@]	120.00[@] *24*	Γ_γ=1.46 eV *20* (2006MuZX); $g\Gamma_n$=550 eV *100* (1976Bo31); $g(\Gamma_n\Gamma_\gamma)/(\Gamma_n+\Gamma_\gamma)$=1.46 eV *20* (2006MuZX).

[†] From S(n)(^{93}Zr)+E(n)(c.m.), where S(n)=6734.4 *5* (2009AuZZ) and E(n)(c.m.)=E(n)(lab)[92/93]. other S(n)=6734.5 *4* (2003Au03). Uncertainties are not shown here; they are all dominated by the 0.5 keV uncertainty In S(n). also, these levels are not included In Adopted Levels.

[‡] From 2010Ta09 for E(n)<39.5, from 2006MuZX At higher energies, except As noted.

[#] From 2010Ta09, except As noted.

[@] From 2006MuZX.

[&] Resonance reported by 2010Ta09 only.