^{96}Zr(p,p′) 1984FuZY,1993Ho01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	D. Abriola(a), A. A. Sonzogni	NDS 109, 2501 (2008)	1-Apr-2008

1984FuZY: E=65 MeV, FWHM=15-20 keV; measured elastic and inelastic scattering; DWBA analysis.
1993Ho01: E=22 MeV, FWHM=5 keV; E=65 MeV, FWHM=15-20 keV; measured elastic and inelastic scattering; DWBA and coupled-channels analysis.
1967St24: E=19.4 MeV, FWHM=120 keV; measured elastic and inelastic scattering; DWBA analysis.
Other: 1995FuZY.

^{96}Zr Levels

B(Eλ)(W.u.) from 1993Ho01; if two values are given, the first was obtained at E=22 MeV; and the second at 65 MeV.

E(level)[†]	J$^{\pi}$[a]	L[‡]	βR[#]	Comments
0				
1582[@]		(0)[@]		β_0^2=3.6×10^{-5} (E(p)=22 MeV) (1993Ho01).
1751 *5*		2	0.385	B(E2)(W.u.)=11, 4.4.
1897 *5*		3	1.143	B(E3)(W.u.)=65, 61.
2226[@]		(2)[@]		B(E2)(W.u.)=0.23 (E(p)=22 MeV).
2439[@]		(2,4)[@]		B(E2)(W.u.)=0.67 (E(p)=22 MeV).
2669[@]		(2)[@]		B(E2)(W.u.)=0.18 (E(p)=22 MeV).
2694[@]		(0)[@]		β_0^2=3.6×10^{-5} (E(p)=22 MeV) (1993Ho01).
2858 *5*		4	0.133	B(E4)(W.u.)=2.9, 1.5.
2924 *5*		5	0.083	L: (0) or (5) (1993Ho01). β_0^2=3.6×10^{-5} if L=(0) (E(p)=22 MeV); B(E5)(W.u.)=1.1 (E(p)=65 MeV).
3039 *5*		3	0.066	B(E3)(W.u.)=0.20 (E(p)=65 MeV).
3078 *5*		4	0.215	B(E4)(W.u.)=12, 3.8.
3114 *5*		5	0.371	B(E5)(W.u.)=26, 22.
3150[@]		(2)[@]		B(E2)(W.u.)=0.39 (E(p)=22 MeV).
3173 *5*		4	0.410	B(E4)(W.u.)=24, 14.
3209 *5*		2	0.128	B(E2)(W.u.)=1.0, 0.48.
3248 *5*		2	0.138	B(E2)(W.u.)=0.58, 0.57.
3309[@]		4[@]		B(E4)(W.u.)=1.1 (E(p)=22 MeV). E(level): ^{90}Zr contaminant 2$^+$ level at 3308.
3363[@]		(3),(4)[@]		B(E4)(W.u.)=0.51 (E(p)=22 MeV).
3427 *5*		4	0.101	B(E4)(W.u.)=1.0, 0.83.
3445?[@]		(2)[@]		
3450?[&]				
3457[@] *2*		(6)[@]		B(E6)(W.u.)=2.0 (E(p)=22 MeV).
3468 *5*		2	0.139	E(level): 3472 from 22 MeV data (1993Ho01). B(E2)(W.u.)=0.39, 0.57.
3481 *5*		6	0.150	B(E6)(W.u.)=23, 7.6.
3502 *5*		2	0.094	E(level): 3509 from 22 MeV data (1993Ho01). B(E2)(W.u.)=0.67, 0.27.
3551 *5*		2	0.101	E(level): 3557 from 22 MeV data (1993Ho01). B(E2)(W.u.)=0.18, 0.30.
3575[@]		(3,5,6)[@]		B(E3)(W.u.)=0.52 (E(p)=22 MeV).
3585[&]	(4$^-$)			
3602[@]		(2)[@]		
3611 *5*		(2,3,4)		E(level): 3621 from 22 MeV data (1993Ho01).

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^{96}Zr(p,p′) 1984FuZY,1993Ho01 (continued)

^{96}Zr Levels (continued)

E(level)[†]	Jπ[a]	L[‡]	βR[#]	Comments
				L: (0) or 2 (1993Ho01).
				β_0^2=3.6×10^{-5} if L=(0) (E(p)=22 MeV) (1993Ho01).
3676 *5*	(3$^-$)	5	0.107	E(level): 3679 from 22 MeV data (1993Ho01).
				L: (3,4,5) (1993Ho01).
				B(E5)(W.u.)=1.8 (E(p)=65 MeV).
3695 *5*		2	0.086	E(level): 3701 from 22 MeV data (1993Ho01).
				L: (0,2); β_0^2=4.9×10^{-5} if L=(0) (E(p)=22 MeV), B(E2)(W.u.)=0.22 (E(p)=65 MeV) if L=(2) (1993Ho01).
3732[&]	(2$^-$)			
3740 *5*		4	0.136	E(level): 3749 from 22 MeV data (1993Ho01).
				B(E4)(W.u.)=1.5 (E(p)=65 MeV).
				L: (4), 5 (1993Ho01); B(E5)(W.u.)=6.0 (E(p)=22 MeV).
3772[@]		(6)[@]		B(E6)(W.u.)=1.3 (E(p)=22 MeV).
3833[@]		4[@]		B(E4)(W.u.)=1.1 (E(p)=22 MeV).
3856[@]		2[@]		B(E2)(W.u.)=0.10 (E(p)=22 MeV).
3895 *5*		4	0.087	
3922[&]				
3947[@]		(2)[@]		
3997[@]		(2)[@]		
4014[@]		5[@]		B(E5)(W.u.)=13, 12.
4028[@]		3[@]		B(E3)(W.u.)=0.86 (E(p)=22 MeV).
4038 *5*		5	0.279	L: 2 (1993Ho01).
				B(E2)(W.u.)=2.2 (E(p)=22 MeV), if L=2 (1993Ho01).
4055 *5*		2	0.094	L: (2) (E(p)=65 MeV) (1993Ho01).
				B(E2)(W.u.)=0.27 (E(p)=65 MeV).
4067[@]		(1)[@]		B(E1)(W.u.)=0.041 (E(p)=22 MeV).
4128?[@]		[@]		
4139 *5*		(0,1,2)		L: (0) (1993Ho01).
				β_0^2=6.4×10^{-5} (E(p)=22 MeV) (1993Ho01).
4205 *5*		4	0.091	
4236 *5*		(7,8)		L: 7 (1993Ho01).
4334 *5*		2	0.091	L: (3),(2) (1993Ho01).
4430 *5*		6	0.113	B(E6)(W.u.)=3.8 (E(p)=65 MeV).
4479 *5*		4	0.090	B(E4)(W.u.)=0.63 (E(p)=65 MeV).
4698 *5*		2	0.090	B(E2)(W.u.)=0.24 (E(p)=65 MeV).
4807 *5*				
4834 *5*				
4887 *5*				
4933 *5*				
4979 *5*				
5014 *5*				
5065 *5*				
5117 *5*				
5245 *5*				
5329 *5*				
5384 *5*				
5443 *5*				

[†] From 1984FuZY, unless indicated otherwise.
[‡] From 1984FuZY; assignments by 1993Ho01 that differ from those of 1984FuZY are indicated in comments.
[#] From 1984FuZY.

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^{96}Zr(p,p′) 1984FuZY,1993Ho01 (continued)

^{96}Zr Levels (continued)

@ From 1993Ho01.
& From 1993Ho01.
a From coupled-channels calculations (1993Ho01).