^{92}Zr(p,α),(pol p,α) 1975Pe02,1978Gu17,1980Sh21

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 114, 1 (2013)	20-Oct-2012

1975Pe02: (p,α) E=22.8 MeV, FWHM=60-70 keV. Measured $\sigma(\theta)$, DWBA analysis.
1978Gu17 (also 1978Ra19,1977GuZP): (p,α) E=35 MeV, FWHM≈100 keV. Measured $\sigma(\theta)$ for first four states, DWBA predictions. A total of 17 groups reported up to 5610. Detailed shell-model configurations.
1978Ra19 (from the same group as 1978Gu17): (pol p,α) E=35 MeV. Measured $\sigma(\theta)$ and Ay(θ) for first four states. See 1980Br07, 1980Ob02, 1981Ce03 and 1983Br07 for analysis of (pol p,α) data.
1980Sh21: (pol p,α) E=17 MeV, FWHM≈60 keV. Measured $\sigma(\theta)$ and Ay(θ) for first four states, DWBA analysis.
1966No04: (p,α) E=28 MeV. Measured $\sigma(\theta)$ and assigned $1/2^-$ to g.s. and $3/2^-$ to 1500 from DWBA analysis.
Additional information 1.

Cross section data (1975Pe02)

Level	σ in μb/sr (20 °)
0	48
910	48
1510	100
1740	55
2220	1.0
2530	1.2
2640	4.5
2890	3.5
3120	1.3
3560	5.0
3790	5.0
4060	5
4550	10
4880	5
5120	35
5220	15
5380	12
5610	16
5690	38

^{89}Y Levels

E(level)[†]	J$^\pi$[‡]	L	σ/σ(DWBA)[#]	Comments
0	$1/2^-$[@]	1[@]	1.0	
910	$9/2^+$[@]	4[@]	0.44	σ/σ(DWBA): 0.80 (1980Br07).
1510	$3/2^-$[@]	1[@]	1.29	σ/σ(DWBA): 1.01 (1980Br07).
1740	$5/2^-$[@]	3[@]	0.50	σ/σ(DWBA): 0.76 (1980Br07).
2220				J$^\pi$: $\sigma(\theta)$ does not fit DWBA expected for J$^\pi$=$5/2^+$ (1975Pe02).
2530				J$^\pi$: $\sigma(\theta)$ does not fit DWBA expected for J$^\pi$=$3/2^+$ (1975Pe02).
2640				E(level): 2620 (1978Gu17). J$^\pi$: $\sigma(\theta)$ possibly consistent with DWBA for J$^\pi$=$9/2^+$ (for 2622 level in Adopted Levels) (1975Pe02).
2890				E(level): 2870 (1978Gu17). J$^\pi$: $\sigma(\theta)$ does not fit DWBA expected for J$^\pi$=$(7/2)^+$ (for 2871 level in Adopted Levels) (1975Pe02).
3120			0.012	E(level): 3070 (1978Gu17). J$^\pi$: $\sigma(\theta)$ does not fit DWBA expected for adopted J$^\pi$=$(5/2)^-$ (for 3107 or 3139 levels in Adopted Levels) (1975Pe02).
3360[a]				E(level): 3410 (1978Gu17).

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^{92}Zr(p,α),(pol p,α) 1975Pe02,1978Gu17,1980Sh21 (continued)

^{89}Y Levels (continued)

E(level)[†]	J^{π}[‡]	L	σ/σ(DWBA)[#]	Comments
3560	(1/2)	(0,1)[&]	0.10	E(level): 3510 (1978Gu17).
3790				E(level): 3720 (1978Gu17). J^{π}: $\sigma(\theta)$ does not fit any DWBA prediction (1975Pe02).
3810[a]				E(level): 3860 (1978Gu17).
4060[b]				
4550	($5/2^+$)	(2)[&]	0.0062	E(level): 4500 (1978Gu17).
4880	($5/2^-$)			E(level): 4810 (1978Gu17).
5120	($3/2^-$)	(1)[&]	0.50	E(level): 5030 (1978Gu17).
5220[b]	($3/2^-$)	(1)[&]		
5380[b]	(1/2)	(0,1)[&]	0.25	
5610[b]				
5690				E(level): 5610 (1978Gu17). J^{π}: $\sigma(\theta)$ does not fit any DWBA prediction (1975Pe02).

[†] From 1975Pe02, unless otherwise stated.
[‡] From DWBA analysis (1975Pe02), unless otherwise stated. For J=1/2, parity is indeterminate since the oscillation pattern is similar for $1/2^+$ and $1/2^-$.
[#] From DWBA analysis of $\sigma(\theta)$ (1975Pe02). The values are normalized (evaluator) to 1.0 for g.s. 1975Pe02 normalized data to 16000 for g.s..
[@] From $\sigma(\theta)$ and analyzing power (1980Sh21,1978Ra19).
[&] Implied by J^{π} assignment.
[a] From 1978Gu17 only. The value given is 50 keV lower than quoted by 1978Gu17, since above 2530, energies quoted by 1978Gu17 are consistently lower (by 20-90 keV in the 2530-5690 range) than those in 1975Pe02.
[b] From 1975Pe02 only.