^{94}Zr(d,d′) 1986Fr24

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	D. Abriola(a), A. A. Sonzogni	NDS 107, 2423 (2006)	1-Jan-2006

E=15.5 MeV, θ=25°, 30°, 34°, 52°, 60°, FWHM=11 keV, measured deuteron angular distributions $\sigma(\theta)$ with an Enge split pole spectrograph with photographic plates; deduced levels, J^π deformation parameters β_L with DWBA analyses.
Other: 1962Jo05.

^{94}Zr Levels

E(level)[#]	L	$\beta_L^2 \times 100$	Comments
0			
918.24 *23*	2	1.48 *18*	E(level): used as the energy calibration.
1299 *3*			L,$\beta_L^2 \times 100$: L=1,3,4 with $\beta_L^2 \times 100$=0.137 *18*, 0.130 *17*, 0.157 *21*, respectively. J^π: adopted J^π is in conflict with the DWBA fit which favors L=1,3 or 4 but does not rule out 0 . Authors suggest that a possible reason for discrepancy could be the multiple excitation through the 2^+ level at 918.
1468 *3*	3,4		$\beta_L^2 \times 100$: 0.341 *43*, 0.430 *55*.
1670 *3*	2	1.68	
2055 *4*	3	2.06	
2149[†] *4*			
2328 *4*	3,4		$\beta_L^2 \times 100$: 0.201 *27*, 0.254 *37*. E(level): isotope contamination corrected.
2363 *4*	2	2.35	
2401? *6*			
2505? *6*			
2603 *5*	5	0.196 *28*	
2696? *6*			
2719? *6*			
2769? *6*			
2824 *5*			
2843 *5*	1,4		$\beta_L^2 \times 100$: 0.123 *18*, 0.131 *16*, respectively.
2871 *5*	4	0.245 *32*	
2886 *5*	2,3,4		$\beta_L^2 \times 100$: 0.033 *5*, 0.053 *8*, 0.070 *11*, respectively.
2905 *5*	2,3,4		$\beta_L^2 \times 100$: 0.069 *10*, 0.102 *14*, 0.130 *16*, respectively.
2925 *5*	1,3,4		$\beta_L^2 \times 100$: 0.163 *22*, 0.125 *17*, 0.176 *24*, respectively.
3030[†] *6*			
3057? *7*			
3137[‡] *6*	3,4		$\beta_L^2 \times 100$: 0.254 *33*, 0.336 *44*, respectively.
3217 *6*	3	0.322 *41*	
3281 *6*	2	0.065 *10*	
3316[†] *6*			
3331 *6*			
3358 *6*	1,3,4		$\beta_L^2 \times 100$: 0.211 *29*, 0.165 *23*, 0.229 *31*, respectively.
3407 *6*	1,3,4		$\beta_L^2 \times 100$: 0.133 *20*, 0.108 *16*, 0.151 *23*, respectively.
3481 *7*			
3560 *7*	3,4		$\beta_L^2 \times 100$: 0.166 *23*, 0.231 *32*, respectively.
3598[‡] *7*			
3686[†] *7*			
3732[†] *7*	0,3,4		$\beta_L^2 \times 100$: 0.065 *11*, 0.057 *10*, 0.082 *11*, respectively.
3776 *7*	0	0.111 *17*	
3840 *7*			
3884[†] *7*			
3897 *7*			

Continued on next page (footnotes at end of table)

^{94}Zr(d,d′) 1986Fr24 (continued)

^{94}Zr Levels (continued)

E(level)[#]
3994 *8*
4081[†] *8*
4149 *8*
4225[‡] *8*
4340 *8*

[†] Probable doublet.
[‡] Probable triplet.
[#] Uncertainty 0.15% from spectrograph calibration, 0.3 to 1.9 keV from standard deviation of average energy.