^{91}Zr(^{3}He,α) 1973Fa05

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. K. Basu, E. A. Mccutchan	NDS 165,1 (2020)	1-Mar-2020

$J^{\pi}(^{91}Zr)=5/2^{+}$.

1973Fa05: E=24 MeV. Measured $\sigma(\theta)$, θ=10°, 20°, 35°, 45°, 55°. Position sensitive proportional detectors, magnetic spectrograph. FWHM=40 keV.

1977Ga17: E=39 MeV. Measured $\sigma(\theta)$, θ=5°−40° in steps of 5°. Position sensitive detectors, magnetic spectrograph. FWHM=30-35 keV.

Other: 1968Ru02.

Data are from 1973Fa05, except as noted.

^{90}Zr Levels

E(level)	L[†]	C^{2}S[†&]	Comments
0	2[@]	0.94[@]	
2186[‡]	[4]	0.05	
3077[‡]	[4]	0.05	
3309[‡]	[4]	0.10	
3843[‡]	[4]	0.03	
4334 *10*	(4)	1.54	E(level): Suggested to be the 4^{+} member of the configuration=$((\nu\ 1g_{9/2})^{-1}(\nu\ d_{5/2}))$ multiplet.
4457 *10*	(4)	1.80	E(level): Suggested to be the 5^{+} member of the configuration=$((\nu\ 1g_{9/2})^{-1}(\nu\ d_{5/2}))$ multiplet.
4542 *10*	(4)	2.11	E(level): Suggested to be the 6^{+} member of the configuration=$((\nu\ 1g_{9/2})^{-1}(\nu\ d_{5/2}))$ multiplet.
4594 *10*	(4)	1.03	E(level): Suggested to be the 3^{+} member of the configuration=$((\nu\ 1g_{9/2})^{-1}(\nu\ d_{5/2}))$ multiplet.
4694 *10*	(4)	0.34	E(level): Suggested to be the 2^{+} member of the configuration=$((\nu\ 1g_{9/2})^{-1}(\nu\ d_{5/2}))$ multiplet.
5061 *10*	(4)	2.66	E(level): Suggested to be the 7^{+} member of the configuration=$((\nu\ 1g_{9/2})^{-1}(\nu\ d_{5/2}))$ multiplet.
5350 *20*	(3,4)	0.25[#]	
5690 *20*	(3,4)	0.26[#]	
5810 *20*	(3,4)	0.29[#]	
6300 *20*	(3,4)	0.88[#]	

[†] From comparison of $\sigma(\theta)$ with DWBA calculations (1973Fa05), except where noted. The L values should be regarded as tentative. Brackets have been added by the evaluators.

[‡] From the Adopted Levels.

[#] Assuming L=4 (1973Fa05).

[@] From 1977Ga17.

[&] Relative strength only, except for g.s.