

$^{91}\text{Zr}(\beta^-\text{He},\alpha)$ **1973Fa05**

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

 $J^\pi(^{91}\text{Zr})=5/2^+$.**1973Fa05:** E=24 MeV. Measured $\sigma(\theta)$, $\theta=10^\circ, 20^\circ, 35^\circ, 45^\circ, 55^\circ$. Position sensitive proportional detectors, magnetic spectrograph. FWHM=40 keV.**1977Ga17:** E=39 MeV. Measured $\sigma(\theta)$, $\theta=5^\circ-40^\circ$ 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.