

<sup>96</sup>Zr(<sup>3</sup>He,d),(d,n) 1973Me06

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 111, 525 (2010)	19-Nov-2009

<sup>96</sup>Zr(<sup>3</sup>He,d): E(<sup>3</sup>He)=22 MeV. Measured  $\sigma(E,\theta)$ ,  $\theta$  from 8° to 61°; split-pole magnetic spectrograph, emulsion plates. Resolution=25 keV FWHM. DWBA analysis with DWUCK.

1969Ca20: <sup>96</sup>Zr(<sup>3</sup>He,d): E(<sup>3</sup>He)=24.7 MeV; enriched target; measured  $\sigma(E,\theta)$ . DWBA analysis with JULIE.

1972Ho28: <sup>96</sup>Zr(d,n): ED=12 MeV; measured  $\sigma(E,\theta)$ ,  $\theta$  from 15° to 60°. tof, n time resolution=1.9 ns. DWBA analysis with JULIE.

1971Ni03: <sup>96</sup>Zr(<sup>16</sup>O,<sup>15</sup>N): E(<sup>16</sup>O)=60 MeV; measured  $\sigma(E,\theta)$ . E resolution 200-400 keV FWHM.

Data given are from 1973Me06, unless otherwise noted.

<sup>97</sup>Nb Levels

E(level)	J <sup><math>\pi</math></sup>	L	(2J+1)C <sup>2</sup> S	Comments
0.0	9/2 <sup>+</sup>	4	8.8	
746 15	1/2 <sup>-</sup>	1	0.27	
1253 15	3/2 <sup>-</sup>	1	0.26	
1280 15	5/2 <sup>+</sup>	2	0.15	
1434 15	5/2 <sup>-</sup>	(1,3)	0.074,0.31	
1554 15	1/2 <sup>-</sup> ,3/2 <sup>-</sup>	1	0.024	
1754 15	5/2 <sup>+</sup>	2	0.66	
1776 15	(3/2 <sup>-</sup> )	(1)	(0.17)	
1856 15	5/2 <sup>+</sup>	2	0.32	
1945 15	7/2 <sup>+</sup> ,9/2 <sup>+</sup>	4	0.37	
2048 15	(3/2 <sup>-</sup> )	(1)	(0.066)	E(level): a level with L=1,S=0.059 was seen at 2.08 MeV in the <sup>97</sup> Zr(d,n) reaction (1972Ho28).
2092 15	3/2 <sup>+</sup> ,5/2 <sup>+</sup>	2	0.41	
2114 15	(3/2 <sup>+</sup> )	(2)	(0.19)	
2357 15	(1/2 <sup>+</sup> )	(0)	(0.15)	
2525 15	3/2 <sup>+</sup> ,5/2 <sup>+</sup>	2	0.20	
2676 15	3/2 <sup>+</sup> ,5/2 <sup>+</sup>	2	0.14	
2702 15	3/2 <sup>+</sup> ,5/2 <sup>+</sup>	2	0.17	E(level): L=1 was assigned to a peak at 2.69 MeV by 1972Ho28. No such level was found by 1973Me06.
2727 15	3/2 <sup>+</sup> ,5/2 <sup>+</sup>	2	0.29	
2748 15	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> )	(2)	(0.12)	
2792 15	(1/2 <sup>+</sup> )	(0)	(0.05)	
2981 15	(1/2 <sup>+</sup> )	(0)	(0.03)	
3067 15	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> )	(2)	(0.12)	
3212 15	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> )	(2)	(0.075)	
3326 15	(1/2 <sup>-</sup> ,3/2 <sup>-</sup> )	(1)	(0.047)	
3362 15	3/2 <sup>+</sup> ,5/2 <sup>+</sup>	2	0.25	
3418 15	3/2 <sup>+</sup> ,5/2 <sup>+</sup>	2	0.13	
3486 15	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> )	(2)	(0.065)	
3518 15	3/2 <sup>+</sup> ,5/2 <sup>+</sup>	2	0.24	
3537 15	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> )	(2)	(0.069)	
3586 15	3/2 <sup>+</sup> ,5/2 <sup>+</sup>	2	0.070	
3643 15	3/2 <sup>+</sup> ,5/2 <sup>+</sup>	2	0.083	
3759 15	(5/2 <sup>-</sup> ,7/2 <sup>-</sup> )	(3)	(0.45)	
3799 15	(3/2 <sup>+</sup> ,5/2 <sup>+</sup> )	(2)	(0.088)	
3862 15	3/2 <sup>+</sup> ,5/2 <sup>+</sup>	2	0.10	
3945 15	3/2 <sup>+</sup> ,5/2 <sup>+</sup>	2	0.13	
4038 15	3/2 <sup>+</sup> ,5/2 <sup>+</sup>	2	0.12	
4080 <sup>‡</sup> 20				
4200 <sup>‡</sup> 20				
4350 <sup>‡</sup> 20				

Continued on next page (footnotes at end of table)

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 $^{96}\text{Zr}({}^3\text{He,d}),(\text{d,n})$  **1973Me06 (continued)**

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 $^{97}\text{Nb}$  Levels (continued)

<u>E(level)</u>	<u>E(level)</u>	<u>E(level)</u>
4530 <sup>‡</sup> 20	4880 <sup>‡</sup> 20	5330 <sup>‡</sup> 20
4660 <sup>‡</sup> 20	4960 <sup>‡</sup> 20	5460 <sup>‡</sup> 20
4780 <sup>‡</sup> 20	5220 <sup>‡</sup> 20	5630 <sup>‡</sup> 20

<sup>†</sup> From Adopted Levels.

<sup>‡</sup> From [1972Ho28](#) (read by evaluator from fig. 2).