^{90}Zr(p,t) 1998Ja20,1971Ba43,1969Ba08

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan and A. A. Sonzogni	NDS 115, 135 (2014)	1-Nov-2013

1998Ja20: Ep=25 MeV. Measured $\sigma(\theta)$ using Q3D magnetic spectrometer and light-ion focal plane detector; DWBA analysis. Subset of results also in 1998GuZX.

1971Ba43: Ep=38 MeV. Measured $\sigma(\theta)$ using broad-range magnetic spectrograph and nuclear emulsions (FWHM=25 keV); DWBA analysis.

1969Ba08: Ep=31 MeV. Measured $\sigma(\theta)$ using broad-range magnetic spectrograph and nuclear emulsions (FWHM=20 keV); DWBA analysis.

1969Ta01: Ep=55 MeV. Measured $\sigma(\theta)$ using broad-range magnetic spectrograph and focal plane detector consisting of 200 proportional counters (FWHM=100 keV); DWBA analysis.

Other: 1982Na06.

1969Ba08 and 1998Ja20 are in exact agreement for observed energy levels with E≤2801 keV. Above this energy, differences are noted. Also, differences in L value assignments are indicated in the comments.

^{88}Zr Levels

E(level)[†]	L[‡]	dσ/dΩ$_{max}$ (μb/sr)[&]	Comments
0	0	1340	
1057 *3*	2	150	
1521 *3*	0	125	
1818 *3*	(2)	11,6	L: (2,4) from DWBA analysis of 1969Ba08.
2140 *3*	4	27	
2225 *3*	0	170	
2456 *3*	3	62	
2539 *3*	5	2	L: (4) from DWBA analysis of 1969Ba08 for 2520 level.
2570 *3*	2	116	
2605 *3*	4	14	L: (4,6) from DWBA analysis of 1969Ba08. E(level): 1971Ba43 report an unresolved multiplet at 2.6 MeV.
2801 *3*	5	51	
2811[a] *3*	6		
2875 *5*	(8,6)	6	E(level),L: from 1971Ba43. L: (4,6,8) from DWBA analysis of 1969Ba08.
2888[a] *3*	(2)		
2928[a] *3*	3		
2990[a] *3*	5		
3027 *3*	2	40,18	L: 2,(4) from DWBA analysis of 1969Ba08.
3033[a] *3*	3		
3.06×10^3	(4)	8	E(level),L: from 1969Ba08.
3092[a] *3*	5		
3.30×10^3		10	E(level): from 1969Ba08.
3.43×10^3	(0)	41	E(level),L: from 1969Ba08.
3990[#@] *20*			
4170[#] *20*			
4370[#] *20*			

[†] From 1998Ja20, except where noted.
[‡] From DWBA analysis of 1998Ja20, except where noted.
[#] From 1969Ta01.
[@] Unresolved multiplet indicated by line broadening.
[&] From 1969Ba08. Authors provide a general statement that cross sections are accurate to 10%.
[a] Level observed only in 1998Ja20.