^{90}Zr(^{3}He,d) 1970Kn05

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 114, 1293 (2013)	1-Sep-2013

Others: 1969Ca20, 1969Pi05, 1971Kn07, 1982Ma04.

1982Ma04: E=89.3 MeV. 97.7% ^{90}Zr target. Magnetic spectrograph + nuclear emulsions and semi ΔE,E telescope. FWHM≈45 keV. θ(c.m.)≈10°−50° (g.s. group to 65°).

1970Kn05: E=18 MeV. 97.8% ^{90}Zr target. Magnetic spectrograph + nuclear emulsions, FWHM=50 keV. θ=5° to 80° (5° steps). See 1971Kn07 for further discussion.

1969Ca20: E=24.7, 30.9 MeV. 97.80% ^{90}Zr target. Magnetic spectrometer, FWHM=30 keV to 55 keV. θ(c.m.)≈6°−28°.

1969Pi05: E=18 MeV. 97.8% ^{90}Zr target. Semi ΔE-E telescope, FWHM≈80 keV. θ(c.m.)≈25°−85°.

Theoretical interpretation: isobaric energy splitting deduced from (^{3}He,d) (1971Kn07).

^{91}Nb Levels

E(level)†	L‡	(2J+1)C^{2}S#	Comments
0	4	8.8	
104 *5*	1	0.77	E(level): from 1969Ca20. 100 *10* in 1970Kn05.
1309 *10*	1	0.14	
1595 *10*	1	0.27	
1830 *10*			L: 4,(3) from 1970Kn05. Others: L=3 (1969Ca20), L=2 (1969Pi05). (2J+1)C^{2}S: 0.34 if L=4 (1970Kn05).
1958 *10*	1,(2)	0.06	(2J+1)C^{2}S: if L=1 (1970Kn05). L=2 in 1969Ca20.
2340 *10*	1	0.05	
2634 *10*		@	
2952 *10*		@	
3162 *10*	2	0.24	
3410 *10*	2	2.6	
3564 *10*		@	
3700 *10*	2	0.12	
3920 *10*		@	
4024 *10*		@	
4164 *10*	0	0.11	
4230 *10*	2	0.18	
4358 *10*	2	0.12	
4441 *10*	0	0.32	
4546 *10*	2	0.26	
4650 *10*	2	0.07	
4738 *10*	2	0.19	
4817 *10*	4	2.8	
4912 *10*	2	0.16	
5010 *10*	2	0.16	
5068 *10*	2	0.21	
5226 *10*	0+2	0.057+0.18	
5307 *10*	2	0.75	
5392 *10*	2	0.37	
5502 *10*	2	0.87	
5622 *15*	0	0.091	
5685 *15*	0	0.14	
5788 *15*	0	0.065	
5840 *15*	0	0.48	
5994 *15*		@	
6040 *15*	4	4.2	
6121 *15*	2	0.31	
6180 *15*	2	0.42	

Continued on next page (footnotes at end of table)

^{90}Zr(^{3}He,d) 1970Kn05 (continued)

^{91}Nb Levels (continued)

E(level)†	L‡	E(level)†	L‡	(2J+1)C^{2}S#	E(level)†	L‡	(2J+1)C^{2}S#
6215 *15*	(4)	6529 *15*	0+2	0.076+0.23	7007 *15*	0	0.32
6286 *15*		6703 *15*	0+2	0.093+0.29	7060 *15*		@
6345 *15*		6850 *15*	0+2	0.085+0.30	7112 *15*		@
6406 *15*		6923 *15*		@	7218 *15*		@

† From 1970Kn05.
‡ From DWBA analysis (1970Kn05).
# Values are (2J+1)C^{2}S from DWBA calculations of 1970Kn05. The sum of the g.s. and L=1 strengths is normalized to 10.0 using a normalization factor of 4.2.
@ Weak.