^{52}Cr(t,p) 1983Wa18,1968Ch20

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yang Dong, Huo Junde	NDS 121, 1 (2014)	20-Jun-2014

Additional information 1.

1983Wa18: E=15 MeV. Multichannel spectrograph, nuclear emulsions. FWHM=19 keV. Measured σ(E(p),θ) from 3.75° to 86.25°, DWBA.

1968Ch20: E=12 MeV. Multiangle magnetic spectrograph, nuclear emulsions.

^{54}Cr Levels

All data are from 1983Wa18, except as noted.

E(level)	J^{π}[@]	L	Comments
0.0 *1*	0^+	0	
838 *4*	2^+	2	
1822 *3*	4^+	4	
2620 *3*	2^+	2	
2830 *4*	0^+	0	
3076 *3*	2^+	2	
3160 *4*	4^+	4	
3224 *12*	6^+	(6)	J^{π}: L=6 fits well in region 30° to 90° but the $\sigma(\theta)$ fit for forward angles is not good and in fact suggests presence of L=1 component. There is no evidence to indicate a possible doublet.
3395 *10*			J^{π}: expected and thought to have unnatural parity requiring a multi-step process to explain its excitation.
3437 *8*	2^+	2	
3655 *3*	4^+	4	
3710[‡] *20*			
3798 *3*	4^+	4	
3862 *3*	2^+	2	
3927 *4*	2^+	2	
4011 *3*	0^+	0	
4080[‡] *20*			
4128 *4*	3^-	3	
4198 *4*	2^+	2	
4248[†] *11*	$2^+,3^-$	2+3	
4379[†] *10*	$1^-,3^-$	(1+3)	
4452 *12*	4^+	4	
4583 *5*	0^+	0	
4627 *5*	2^+	2	
4866[†] *5*	$1^-,4^+$	1+4	
5065 *12*	4^+	4	
5114 *11*	2^+	2	
5188[†] *8*	$0^+,4^+$	0+4	
5275 *9*	2^+	2	
5366 *20*			
5457 *6*	2^+	2	
5555 *7*	4^+	4	
5583 *8*			J^{π}: the shape of $\sigma(\theta)$ can be explained by several combinations of L=1,2,4,5 and might have unnatural parity.
6699[#] *10*			
6991[#] *10*			

Continued on next page (footnotes at end of table)

^{52}Cr(t,p) 1983Wa18,1968Ch20 (continued)

^{54}Cr Levels (continued)

† An unresolved doublet.
‡ Observed by 1965Sa21.
# From 1968Ch20.
@ From angular distributions and DWBA analysis.