

⁵⁰Cr(³He,p) 1971Ha24,1973Gu14,1968Ra05

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Yang Dong, Huo Junde		NDS 128, 185 (2015)	10-Jul-2015

1971Ha24: E=16.5 MeV, measured $\sigma(E(p),\theta)$, multiangle spectrograph, nuclear emulsions, overall energy resolution \approx 15 keV FWHM.
 1973Gu14: E=35 MeV, measured $\sigma(E(p),\theta)$, ΔE -E telescope, ΔE : surface barrier detector, E: Ge(Li), Si(Li), resolution \approx 80 keV FWHM.
 1968Ra05: E=12 MeV, measured $\sigma(E(p),\theta)$, multiple-gap spectrograph, nuclear emulsions, 35 keV FWHM.
 Others: 1971Ha55, 1977DrZM.

⁵²Mn Levels

E(level) [†]	J ^{π} ^e	L&	d σ /d Ω [@]	Comments
381 10			52	
554 10			122	
828 10			60	
850 [‡] 30		2,(6) ^c		
881 10			95	
1240 [‡] 30		6 ^c		
1680 [‡] 30		2 ^c		
2130 [‡] 30				
2345 10	(1 ⁺ ,2 ⁺ ,3 ⁺)	(2) ^b	74	
2471 10	0 ⁺ ,(1 ⁺)	0	1149	
2634 10	1 ⁺	0+2	3663	L: from 1971Ha24, but 1968Ra05 report L=0, 1973Gu14 report L=2.
2677 10			69	
2714 10			39	
2788 10		d		
2803 10		d		
2859 10			180	
2873 10			180	
2903 10	0 ⁺ ,1 ⁺	0 ^b	218	
2929 10	0 ⁺ ,1 ⁺	0	1520	T=2. IAS (⁵² Cr g.s.) (1968Ra05,1971Ha24).
2972 10	6 ⁺ ,(5 ⁺ ,7 ⁺) ^f	6 ^c	47	
3213 10	0 ⁺ ,1 ⁺	0 ^b	228	
3245 10		(0+2) ^a	312	
3296 10		(2) ^b	74	
3337 10			70	
3418 10	1 ⁺ ,2 ⁺ ,3 ⁺	2 ^b	184	
3480 10			244	
3575 [#] 10	0 ⁺ ,1 ⁺	0	497	
3776 10	1 ⁺ ,2 ⁺ ,3 ⁺	2	315	
3885 10			85	1971Ha24 report L=(4), 1973Gu14 report L=0+2.
3975 10	1 ⁺ ^f	0+2 ^c	169	
4136 10	(3 ⁺) ^f	2 ^c	135	
4237 10			258	
4281 10	1 ⁺ ,2 ⁺ ,3 ⁺	2 ^b	245	
4314 [#] 10			146	
4375 10	1 ⁺	0+2	1224	
4439 10	1 ⁺ ,2 ⁺ ,3 ⁺	2 ^b	204	
4461 10			51	

Continued on next page (footnotes at end of table)

$^{50}\text{Cr}(^3\text{He,p})$ **1971Ha24,1973Gu14,1968Ra05** (continued) ^{52}Mn Levels (continued)

E(level) [†]	J ^π ^e	L ^{&}	dσ/dΩ [@]	Comments
4500 <i>IO</i>	1 ⁺	0+2 ^b	418	
4679 <i>IO</i>			109	
4704 <i>IO</i>			185	
4837 <i>IO</i>	0 ⁺ ,1 ⁺	0	250	
4953 [#] <i>IO</i>	1 ⁺ ^f	0+2 ^c	259	
5043 <i>IO</i>			175	
5069 <i>IO</i>			172	
5313 <i>IO</i>			149	
5403 <i>IO</i>			268	1968Ra05 report L=(0+2), 1973Gu14 report L=2.
5466 <i>IO</i>			463	
5491 <i>IO</i>	0 ⁺ ,1 ⁺	0	2169	T=(2). IAS(^{52}Cr 2647 keV level) (1971Ha24)?.
5751 <i>IO</i>			650	
5782 <i>IO</i>			783	
5809 <i>IO</i>			345	
5840 <i>IO</i>			746	
5874 <i>IO</i>	1 ⁺ ,2 ⁺ ,3 ⁺	2	311	

[†] From 1971Ha24, except as noted.

[‡] Level reported by 1973Gu14 only.

[#] Doublet.

[@] Peak differential cross section (arbitrary units) (1971Ha24).

[&] From DWBA analyses. Values reported in more than one work without contradiction are given without comment.

^a Reported by 1968Ra05 only.

^b Reported by 1971Ha24 only.

^c Reported by 1973Gu14 only.

^d Combined 2788+2803 line reported L=2, dσ/dΩ=543 (1971Ha24), 2800 line L=2 (1968Ra05), L=2 for E=2800 (1973Gu14).

^e Based on the L value and ($^3\text{He,p}$) selection rule for a 0⁺ target by 1971Ha24, except as noted.

^f From 1973Gu14 based on L value.