

$^{52}\text{Cr}(\text{p}, ^3\text{He})$ **1975Gu19**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh		NDS 157, 1 (2019)	15-Apr-2019

1975Gu19: E(p)=40.2 MeV beam from the Michigan State University cyclotron. Enriched target. Measured $\sigma(\theta(\text{c.m.}) \approx 10^\circ - 40^\circ)$ with a magnetic spectrograph (FWHM=20 keV) with charged particles detected with proportional counters and scintillator combination. Deduced levels, L-transfers from DWBA analysis.

Others:

1982YaZW: E=65 MeV from the accelerator at RCNP. Measured $\sigma(\theta(\text{c.m.}) = 5-60^\circ)$ with a magnetic spectrograph, position sensitive counter. Deduced levels, L-transfers from DWBA analysis.

1978Ko27: E(p)=42.16 MeV. Measured $\sigma(\theta=21^\circ)$ with a Q3D magnetic spectrograph, proportional counters and scintillator.

All data are from **1975Gu19**, unless otherwise stated.

 ^{50}V Levels

E(level) [†]	L [‡]	d σ /d Ω ($\mu\text{b/sr}$) ^{&}
0 [#]	6 [#]	2.7
229	4	5.4
326 [#]	4 [#]	4.4
362	2+4	6.4
394 [#]	2 [#]	9.5
842	4	2.7
916	6	8.1
1303	2	7.6
1332	0+2	12.3
1397	(2)	1.5
1495	0+2	1.3
1515	2	2.5
1560 [@]		
1675	2+4	11
1804	2	9.6
1933 [@]		
1957	0+2	5.6
2035	4	0.9
2113	4	2.5
2133		
2163	(0+2,(3))	2.2
2319	(4),(6)	0.9
2421	3	10.4
2510	3+5	3.2
2537	0+2	11
2598	(3+5),(4)	2.9
2732		
2791	2	13.2
2879	(3+5,2+4)	1.3
2925	(1+3)	0.9
2996	0+2	2.1
3019	(2,3)	1.9
3101	(0+2,3)	6
3200		
3224	0+2	8.3
3296	4	1
3478	0+2	6.1
3546	(2)	1.4
3608		1.5
3684	2+4	3.3

Continued on next page (footnotes at end of table)

 $^{52}\text{Cr}(\text{p}, ^3\text{He})$ [1975Gu19](#) (continued)

 ^{50}V Levels (continued)

<u>E(level)[†]</u>	<u>J^π</u>	<u>L[‡]</u>	<u>dσ/dΩ (μb/sr)^{&}</u>	<u>Comments</u>
3718		0+2	38.7	
3755		0+2	8.2	
3779		0+2	15.9	
3802		4	1.9	
3853		2	4.4	
4806 6	(0 ⁺)			E(level): from measured Q value and Q(g.s.) (1978Ko27). T=(3). J,T: IAS(^{50}Ti g.s.). $\sigma(\text{p,t})/\sigma(\text{p}, ^3\text{He})=1.1 \pm 3$.

[†] No uncertainties are quoted by [1975Gu19](#) but the authors state that their values agree within 10 keV with those from other studies.

[‡] From DWBA analysis of angular distribution ([1975Gu19](#)).

Also observed by [1982YaZW](#). Comparison to DWBA shows evidence of sequential p-d- ^3He processes.

@ Weak group.

& At angle where cross section is maximum with a $\approx 20\%$ uncertainty.