^{50}Cr(d,d′) 1974Pe01,1972Pe28,1968Ha31

History

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

1974Pe01,1972Pe28: E=16.38 MeV beam from the University of Colorado 1.3-m AVF cyclotron. Measured $\sigma(\theta=10°-135°)$ with a ΔE-E counter telescope (FWHM=60 keV), ΔE(level)≤20 keV. Deduced levels, J, π, L-transfers, deformation lengths from DWBA analysis. L=3 data and analysis in 1972Pe28. Also (p,p′), (^{3}He,^{3}He′), (α,α′).
1968Ha31: E=7.50 MeV. Measured $\sigma(\theta)$ for five levels.

^{50}Cr Levels

E(level)[†]	Jπ	L[#]	$(\beta_L R)^2$[@]	Comments
0	0+			
784[‡] *4*		2	0.984	E(level): other: 783 *20* (1974Pe01). dσ/dΩ(maximum)=2.69 mb/sr (1968Ha31).
1880[‡] *4*				E(level): other: 1888 *20* (1974Pe01). L: σ(θ) does not agree with DWBA for L=4. State probably excited by double excitation (1974Pe01). dσ/dΩ(maximum)=0.15 mb/sr (1968Ha31).
2924[‡] *6*		2	0.043	E(level): other: 2924 *20* (1974Pe01). dσ/dΩ(maximum)=0.04 mb/sr (1968Ha31).
3161[‡] *8*		2	0.111	E(level): other: 3161 *20* (1974Pe01). dσ/dΩ(maximum)=0.05 mb/sr (1968Ha31).
3323[‡] *10*		4	0.024	E(level): other: 3325 *20* (1974Pe01). dσ/dΩ(maximum)=0.02 mb/sr (1968Ha31).
3595 *20*				
3611 *20*		4	0.084	
3698 *20*		(4)	0.053	
3792 *20*		(4)		
3825 *20*				
3844 *20*				
3875 *20*				
3898 *20*		4	0.226	
3938 *20*				
4050 *20*		3	0.447	
4193 *20*		2	0.242	
4370 *20*		(5)	0.045	
4570 *20*		3	0.027	
4680 *20*		2	0.020	
4770 *20*		(2)	0.037	
4940 *20*		(4)	0.026	
5230 *20*		(4)	0.059	
5450 *20*		3	0.026	
5760 *20*		3	0.134	
5990 *20*		3	0.080	
6150 *20*		3	0.024	
6450 *20*		3	0.059	
6650 *20*		3	0.136	
6790 *20*		3	0.059	
7360 *20*		3	0.0246	
7860 *20*		3	0.017	
8680 *20*		3	0.071	

[†] From 1974Pe01 and 1972Pe28, combination of (^{3}He,^{3}He′), (p,p′), (α,α′), and (d,d′) measurements, unless otherwise noted.
[‡] From 1968Ha31.

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^{50}Cr(d,d′) 1974Pe01,1972Pe28,1968Ha31 (continued)

^{50}Cr Levels (continued)

[#] From DWBA fit to measured $\sigma(\theta)$ (1974Pe01 and 1972Pe28). Parentheses are added by evaluators for apparent poor fit in the fitting plots.

[@] Square of deformation lengths from 1974Pe01 and 1972Pe28.