^{50}Cr(^{3}He,^{3}He′) 1974Pe01,1972Pe28

History

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

1974Pe01,1972Pe28: E=41.35 MeV beam from the University of Colorado 1.3-m AVF cyclotron. Measured $\sigma(\theta=10°-135°)$ with a ΔE-E counter telescope (FWHM=100 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′), (α,α′), (δ,δ′).

1973Pe03: E=41 MeV. Si detectors used to search for giant-dipole resonance near 20-MeV excitation, but no positive evidence found. For cross section limit, see discussion and references in 1973Pe03, but note that ref. 4 in 1973Pe03 should be 1957Ma58.

Other: 1971Mo39: E=29 MeV. Measured $\sigma(\theta)$ for the first 2^+ state.

^{50}Cr Levels

E(level)[†]	J$^\pi$	L[‡]	(β_LR)^2[#]	Comments
0	0^+			
783 *20*		2	1.62	
1888 *20*				L: $\sigma(\theta)$ does not agree with DWBA for L=4. State probably excited by double excitation (1974Pe01).
2924 *20*		2	0.078	
3161 *20*		2	0.145	
3325 *20*		(4)	0.011	
3595 *20*				
3611 *20*		(4)	0.074	
3698 *20*		4	0.028	
3825 *20*				
3844 *20*				
3875 *20*				
3898 *20*		4	0.222	
3938 *20*				
4050 *20*		3	0.405	
4193 *20*		2	0.118	
4370 *20*		5	0.023	
4570 *20*		3	0.029	
4680 *20*		(2)	0.006	
4770 *20*		(2)	0.005	
4940 *20*		4	0.013	
5230 *20*		4	0.035	
5450 *20*		3	0.019	
5760 *20*		3	0.21	
5990 *20*		3	0.085	
6150 *20*		3	0.017	
6450 *20*		3	0.050	
6650 *20*		3	0.108	
6790 *20*		3	0.039	
7360 *20*		(3)	0.0086	
7860 *20*		3	0.021	
8680 *20*		3	0.045	

[†] From 1974Pe01 and 1972Pe28. Values are from combination of (^{3}He,^{3}He′), (p,p′), (α,α′), and (δ,δ′) measurements.

[‡] 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.