

$^{53}\text{Cr}(\text{p},\text{p}'), (\text{p},\text{p}'\gamma)$ 1968Ra17,1966Ma42

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Huo Junde	NDS 110,2689 (2009)	31-Mar-2007

1966Ma42: E=11, 12 MeV, FWHM=8, 12 keV, measured $\sigma(E,\theta)$.

1968Ra17: E=7.5 MeV, measured $\sigma(E,\theta)$.

1970Ca05: E=2.0-3.5 MeV, measured $\sigma(E,\theta)$, γ , $\gamma(\theta)$, DSAM.

1967Wh02: E=17.5 MeV, FWHM=55-70 keV, measured $\sigma(E,\theta)$, DWBA analysis.

Others: 1965Bo24, 1972Al53, 1965Sp10.

 ^{53}Cr Levels

E(level) [†]	J π &	T _{1/2} ^a	d σ /d Ω (mb/sr 35°) [@]
0.0	3/2 ⁻		
565 ^{‡#} 7	1/2 ⁻	≥0.35 ps	1.32
1006 ^{‡#} 7	5/2 ⁻	≥0.7 ps	0.95
1289 ^{‡#} 7	7/2 ⁻		2.42
1535.8 ^{‡#} 7			
1974 6	5/2 ⁻		≈0.63
2173 6			
2233 6			
2322 6			
2452 6			
2657 6			
2672 6			
2708 6			
2772 6			
2826 6			
2991 6			
3085 [‡] 7			
3127 6			
3184 6			
3244 [‡] 7			
3266 6			
3351 6			
3435 6			
3599 [‡] 7			
3602 6			
3621 6			
3697 6			
3711 6			
3781 [‡] 7			
3838 6			
3971 6			
3980 7			
4046 7			
4073 7			
4128 7			
4139 7			
4171 7			
4189 7			
4223 7			
4286 7			
4297 7			
4317 7			

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$^{53}\text{Cr}(\text{p,p}'), (\text{p,p}'\gamma)$ 1968Ra17,1966Ma42 (continued) ^{53}Cr Levels (continued)

<u>E(level)[†]</u>	<u>E(level)[†]</u>	<u>E(level)[†]</u>	<u>E(level)[†]</u>
4331 7	4522 7	4675 7	4815 7
4363 7	4530 7	4690 7	4884 7
4427 7	4570 7	4699 7	4929 7
4453 7	4610 7	4745 7	
4484 7	4642 7	4790 7	
4500 7	4661 7	4804 7	

[†] Values below 3980 are from 1968Ra17, except where noted. Values above 3971 are from 1966Ma42.

[‡] From 1966Ma42.

[#] From a least-squares fit to the γ -ray data.

[@] From 1967Wh02.

[&] Adopted values.

^a From 1970Ca05, DSAM.

 $\gamma(^{53}\text{Cr})$

<u>E_γ[†]</u>	<u>I_γ[‡]</u>	<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>
250	28	1535.8		1289	7/2 ⁻
280	14	1289	7/2 ⁻	1006	5/2 ⁻
530	72	1535.8		1006	5/2 ⁻
565 2	100	565	1/2 ⁻	0.0	3/2 ⁻
1006	100	1006	5/2 ⁻	0.0	3/2 ⁻
1285	86	1289	7/2 ⁻	0.0	3/2 ⁻

[†] From 1968Ra17.

[‡] % photon branching from each level.

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Level Scheme

Intensities: Relative I_γ

Legend

- \longrightarrow $I_\gamma < 2\% \times I_\gamma^{max}$
- \longrightarrow $I_\gamma < 10\% \times I_\gamma^{max}$
- \longrightarrow $I_\gamma > 10\% \times I_\gamma^{max}$

