^{52}Cr(p,p'γ)   1968Mo19,1971As01,1965Ka12

History

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

1971As01: E=7 MeV, measured Doppler-shift attenuation, Ge(Li).

1968Mo19: E=6.54 MeV, measured p'γ coin, p'γ(θ), an annular silicon surface-barrier detector at 180° to the beam direction and 30 cm^3 Ge(Li) detector at 90°.

1965Ka12: E=2.5-7.5 MeV, measured p'γγ(θ), two 12.7 cm diam, 15.2 cm thick NaI crystals.

For studies devoted to reaction mechanisms see 1978Be37.

All data are from 1968Mo19, except as noted.

^{52}Cr Levels

E(level)	J$^{\pi\dagger}$	T$_{1/2}$‡	Comments
0.0	0^+		
1434.2 5	2^+		
2368.6 8	4^+		
2647.0 8	0^+		
2766.2 8	4^+		
2965.8 8	2^+	0.42 ps 8	
3162.5 7	2^+	33 fs 5	
3413.3 10	(4^+)		
3469.6 10	3^+		More recent work suggests that this is the same level as the 3472.
3472.7 8	3^+		
3771.0 6	2^+	9 fs 4	

† From p'γ(θ) (1968Mo19), p'γγ(θ) (1965Ka12).
‡ From DSAM, 1971As01.

γ(^{52}Cr)

E$_\gamma$	I$_\gamma$$^{\#}$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.†	$\delta^{\dagger}$	Comments
647.1 6		3413.3	(4^+)	2766.2	4^+	M1+E2	+0.1 2	
703.4 6		3469.6	3^+	2766.2	4^+	M1+E2	−0.14 6	More recent work suggests that the energy of the 703γ is incorrect and should be 704.6.
934.5 6		2368.6	4^+	1434.2	2^+	E2‡		
1212.8 6		2647.0	0^+	1434.2	2^+	E2‡		
1332.0 6		2766.2	4^+	1434.2	2^+	E2		
1434.1 6		1434.2	2^+	0.0	0^+	E2		
1531.5 6		2965.8	2^+	1434.2	2^+	M1+E2‡	−6.25‡ 15	
1728.4 6	100 1	3162.5	2^+	1434.2	2^+	M1+E2‡	−0.18‡ 7	
2038.4 6		3472.7	3^+	1434.2	2^+			
2336.9 6	100 4	3771.0	2^+	1434.2	2^+	M1+E2‡	−0.20‡ 8	δ: Other: −0.07 +0.38-0.46 (1968Mo19).
3162.8 6	14 1	3162.5	2^+	0.0	0^+	E2		
3771.0 6	19 5	3771.0	2^+	0.0	0^+			

† From p'γ(θ) CHI**2 analysis (1968Mo19).
‡ From p'γγ(θ) analysis (1965Ka12).
$^{\#}$ Percent photon branching from each level.

$^{52}\text{Cr}(p,p'\gamma)$ **1968Mo19,1971As01,1965Ka12**   Legend

Level Scheme

Intensities: % photon branching from each level

→	$I_\gamma < 2\% \times I_\gamma^{max}$
→	$I_\gamma < 10\% \times I_\gamma^{max}$
→	$I_\gamma > 10\% \times I_\gamma^{max}$
●	Coincidence

$^{52}_{24}\text{Cr}_{28}$