

$^{89}\text{Y}(\text{p},\alpha)$ 1975Co11,1974Ve08

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Alexandru Negret, Balraj Singh		NDS 124, 1 (2015)	30-Nov-2014

$J^\pi(^{89}\text{Y g.s.})=1/2^-$.

1975Co11: E=27.8 MeV. FWHM $\approx$ 50 keV. Measured $\sigma(\theta)$ up to 50° only. DWBA analysis.

1974Ve08: E=15.2 MeV. FWHM $\approx$ 50 keV. Measured $\sigma(\theta)$ to about 120°. DWBA analysis.

1983Sc16 (also 1978Gu20): E=35 MeV. Measured $\sigma(\theta)$. FWHM=90 keV. DWBA analysis, deduced enhancement factors and wave functions of low-lying states of first six levels at 0, 1070, 1850, 2080, 2230 and 2480.

1971Fe01: E<14 MeV. Measured $\sigma(\theta)$ for g.s. and 1080 level, deduced widths.

1965Fu09: E=20.2, 22.5 MeV. Measured $\sigma(\theta)$ for g.s. and 1080 level.

2004GuZY: $^{89}\text{Y}(\text{pol p},\alpha)$, E=24.6 MeV. Measured E_α at 25° using a Q3D magnetic spectrograph FWHM $\approx$ 12 keV; ΔE -E particle identification.

 ^{86}Sr Levels

E(level) [†]	L [‡]	[(d σ /d Ω)exp]/[(d σ /d Ω)DWBA] [#]	Comments
0	1	1	
1070 [@] 10	1+3	1.88	
1855 10	1+3	0.89	
2106 10	1	0.47	
2203 ^b 12			
2223 10	(3+5)	1.59	L: poor DWBA fit.
2365 12			E(level): weak level, not observed by 1974Ve08.
2484 10	4	2.94	
2641 ^b 12			
2670 10	(4)		E(level): unresolved doublet of which the 5 ⁻ state at 2673 keV is dominant. See Adopted Levels.
2796 10	1+3		
2858 ^b 12			
2874 10	(3)		L: level corresponds to known 2878 state and not to 2855, 6 ⁺ state observed in (p,d).
2957 ^b 12			
2995 10	4		
3054 ^b 12			
3096 ^{&} 15	(1)		L: 1974Ve08 assign p _{1/2} transfer on the basis of a dip in the incomplete $\sigma(\theta)$ distribution (not shown in the paper) at 65°.
3186 ^b 12			
3195 10			
3317 ^b 12			
3361 ^b 12			
3388 ^a 10			
3430 ^b 12			
3480 ^a 15			
3573 ^a 25			
3646 ^b 12			
3688 10			
3771 ^b 12			

Continued on next page (footnotes at end of table)

 $^{89}\text{Y}(\text{p},\alpha)$ [1975Co11](#),[1974Ve08](#) (continued)

 ^{86}Sr Levels (continued)

<u>E(level)[†]</u>	<u>Comments</u>
3820 <i>10</i>	E(level): not reported by 1974Ve08 .
3871 <i>^b12</i>	
3940 <i>10</i>	
4270 <i>10</i>	

[†] From [1975Co11](#).

[‡] From DWBA cluster calculations ([1974Ve08](#)) and/or by comparison of angular distributions with those of known angular momentum transfers. [1975Co11](#) state that $\sigma(\theta)$ distributions do not exhibit much structure to assign L-transfers.

From [1983Sc16](#).

@ 1007 given in [1975Co11](#) is probably a misprint.

& Probably a doublet ([1975Co11](#)).

^a Level not observed by [1974Ve08](#) because of interfering proton scattering.

^b Level observed only by [2004GuZY](#).