^{89}Y(p,t) 1976Oe02,1975Co11

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	T. D. Johnson and W. D. Kulp(a)	NDS 129, 1 (2015)	27-Jul-2015

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

1976Oe02: E_p=42 MeV, FWHM=17 keV, θ=10°−50°. Internal energy calibration by means of known level energies determined in previous γ-ray measurements in ^{87}Y. Uncertainty in energy is estimated to be 5 keV for all levels.

1975Co11: E_p=27.8 MeV, FWHM=35-60 keV, θ=9°−50°.

1973Pe01: E_p=27 MeV, FWHM=90 keV, θ=10°−90°.

1973Mo11: E_p=49.5 MeV, FWHM=75 keV, θ=5°−45°. Uncertainty in level energies is ≈ 30 keV. Report 8 levels and 6 L values.

Unless noted otherwise, results presented here are from 1976Oe02.

^{87}Y Levels

E(level)	L[†]	$\sigma(\mu b/sr)$[‡]	Comments
0.0	0	87.9	
380 *30*			Observed by 1973Mo11 only and the relative intensity in their spectrum is approximately 1% of that of the ground state.
793 *5*	2	1.3	
980 *5*	2	8.4	
1177 *5*	2	16.5	
1205 *5*	2	37.0	
1609 *5*	2	0.85	
1641 *5*	0	2.1	
1719 *5*	2	1.5	
1814 *5*	2	3.1	
1857 *5*	0	3.0	
1991 *5*	4	14.2	
2021 *5*	(4)	1.3	
2095 *5*	2	1.5	
2122 *5*	3	4.3	
2165 *5*	4	19.5	
2202 *5*	4	3.1	
2216 *5*	5	4.5	
2256 *5*	2	3.9	
2287 *5*	3	19.2	
2314 *5*	(3)	(6.1)	
2374 *5*	8	4.1	
2413 *5*	(3)	1.0	
2451 *5*	3	5.1	
2486 *5*	6	3.1	
2544 *5*	5	4.9	
2563 *5*	5	38.8	
2601 *5*	3	8.6	
2675 *5*	8	3.1	
2737 *5*	5	13.6	
2808 *5*	5	6.0	
2828 *5*	(2)	6.2	
2871 *5*	6	2.3	
2901 *5*	2	4.4	
2958 *5*	8	1.5	
2997 *5*	3	11.9	
3038 *5*	5	7.2	
3057 *5*	(3)	8.8	
3093 *5*	5	2.9	
3121 *5*	3	5.7	
3181 *5*	(7)	5.1	

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^{89}Y(p,t) 1976Oe02,1975Co11 (continued)

^{87}Y Levels (continued)

E(level)	L[†]	σ(μb/sr)[‡]
3245 *5*	5	4.8
3273 *5*	5	4.7

[†] L-values deduced from DWBA analysis of angular distribution. The neutrons were assumed to be picked up from a $1g_{9/2}$ configuration for L=0, 2, 4, and 8 transfers, and from a $1f_{5/2},1g_{9/2}$ configuration for L=3, 5 and 7 transfers, respectively.

[‡] Sum of cross sections at all angles measured (1976Oe02).