$^{89}\text{Y}(\text{d},\alpha)$, $^{89}\text{Y}(\text{p},^{3}\text{He})$ **1972Br13**

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

Target J^{π} is $1/2^{-}$.

1986Ka27: (pol d,α), E_d=9.0, 12.0, and 16.0 MeV, measured $\sigma(\theta)$ and analyzing power, DWBA analysis, discussion of the structure of three lowest levels.

1985Sa18: E_d=9.0, 12.0, and 16.0 MeV, measured $\sigma(\theta)$ for analyzing power for 3 lowest levels; some authors in common with 1986Ka27.

1973Pe01: E_d=16 MeV, FWHM=60 keV, θ=5°−95°, and (p,^{3}He), E_p=27 MeV, FWHM=120 keV, report 8 excited levels in (d,α) and 9 in (p,^{3}He).

1972Br13: E_d=12.0 MeV, FWHM=40 keV, θ=10°−160°, DWBA analysis of $\sigma(\theta)$, report 21 excited levels.

1962Mi06: E_d=15 MeV, report 10 excited levels.

^{87}Sr Levels

E(level)[†]	L	Comments
0.0	3	L: other: L=3+5 (1973Pe01) in (p,^{3}He) and (d,α).
388.42[‡] *5*	0	L: other: L=0+2 (1973Pe01) in (p,^{3}He) and L=2 in (d,α).
873.32[‡] *6*	0	L: other: L=2 (1973Pe01) in (d,α).
1230 *15*	[#]	
1255 *15*	[#]	
1739 *15*	3	L: other: L=1+3 (1973Pe01) in (d,α).
1914 *15*		
2111 *15*		
2166 *15*		
2413 *15*	1,2	
2550[@] *15*		
2630 *15*	2	
2706 *15*	3	
2925 *15*		
3029 *15*	0	
3075[@] *15*		
3156 *15*	3	
3274 *15*		
3397 *15*	3	
3434 *15*		
3512 *15*	3	
3625[a] *15*	(2)	
3713[a] *15*		
3772[a] *15*		
3934 *15*	2	
4025[&] *15*		
4096[&] *15*		

[†] From 1972Br13, unless otherwise noted; above 1 MeV, uncertainties are from authors' general comment that they are believed to be 15 keV for the absolute energies and 10 keV for the relative energies.

[‡] From Adopted Levels.

[#] L=2 for the 1230+1255 levels; these levels could not be resolved in the analysis of $\sigma(\theta)$ (1972Br13,1973Pe01). In the Adopted Levels, J^{π}=5/2^{+} and 5/2^{-} for these two levels, respectively. See authors' paper for a discussion.

[@] Level obscured by impurity or other groups.

[&] Doublet.

[a] Broad group containing more than one level.