^{87}Sr(p,d),(pol p,d) 1989Ra22

History

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

J^π(^{87}Sr g.s.)=9/2$^+$.

1989Ra22: (pol p,d): E=94.2, 91.8 MeV. FWHM=70, 40 keV, respectively. Measured $\sigma(\theta)$ and analyzing power.

1970Ki10: (p,d): E=20 MeV. FWHM=10 keV. Measured $\sigma(\theta)$ from θ=10°−85°. DWBA analysis. L=4 groups reported at 0, 1077, 1854, 2232, 2855 and 2955. Results reanalyzed by 1978Mo32.

Additional information 1.

^{86}Sr Levels

E(level)	L[†]	C^2S[†‡]	Comments
0.0	4	0.13 *2*	C^2S: other: 0.18 *2* (1978Mo32); σ/2J+1=98 (1970Ki10).
1077[#] *5*	4	0.46 *8*	C^2S: other: 0.70 *9* (1978Mo32); σ/2J+1=76 (1970Ki10).
1847 *5*	4	0.13 *2*	C^2S: other: 0.25 *3* (1978Mo32); σ/2J+1=27 (1970Ki10).
2097 *5*	4	0.006 *1*	
2223[#] *5*	4	0.85 *15*	C^2S: other: 0.14 *2* (1978Mo32); σ/2J+1=82 (1970Ki10).
2476 *5*	1	0.61	
2639 *5*	4	0.06 *1*	
2674 *5*	1	1.05[&]	
2780 *5*	4	0.013 *3*	
2856[#] *5*	4	1.4 *3*	C^2S: other: 2.3 *3* (1978Mo32); σ/2J+1=108 (1970Ki10).
2956[#] *5*	4	2.0 *4*	C^2S: other: 2.9 *3* (1978Mo32); σ/2J+1=100 (1970Ki10).
2995[@] *5*	4+1	0.22 *5*	C^2S: for L=4; 0.31 for L=1 (2p3/2).
3068[@] *10*	4+1	0.082 *2*	C^2S: for L=4; 0.05 for L=1 ($2p_{1/2}$).
3186 *10*	1	0.86[&]	
3320 *10*	1	0.51[&]	
3491 *10*	3	1.35 *3*	
3664 *10*	3	0.08 *3*	
3697 *10*	3	0.19 *5*	
3772[@] *10*	4+1	0.010 *3*	C^2S: for L=4; 0.02 for L=1 ($2p_{1/2}$).
3825 *10*	1	1.17	
3882 *10*	3	0.087 *20*	
3941 *10*	1	1.07	
3963 *10*	3	0.43 *21*	
4096 *10*	1	0.19	
4173[@] *10*	(4+1)	0.04 *1*	C^2S: for L=4; 0.07 for L=1 (2p3/2).
4251 *10*	3	0.29 *9*	
4285 *10*	3	0.51 *13*	
4407 *10*	3+1	0.34 *10*	C^2S: for L=3.
4478 *15*	3+1	0.17 *5*	C^2S: for L=3.
4526 *15*	3	0.039 *20*	
4603 *15*	3	0.054 *20*	
4665 *15*	(4)	0.009 *2*	
4716 *15*	(4)	0.024 *7*	
4738 *15*	(3)	0.042 *20*	
4845 *20*	3	0.23 *6*	
4890 *15*	4	0.04 *1*	
4963[@] *20*	4+1	0.081 *20*	C^2S: for L=4; 0.09 for L=1 (2p3/2).
5035[@] *20*	4+1	0.057 *16*	C^2S: for L=4; 0.06 for L=1 (2p3/2).
5102 *15*	(3)	0.063 *20*	
5166 *20*	(3)	0.09 *5*	

Continued on next page (footnotes at end of table)

^{87}Sr(p,d),(pol p,d) 1989Ra22 (continued)

^{86}Sr Levels (continued)

E(level)	L[†]	C^2S[†‡]	Comments
5191[@] *20*	(4+3)	0.021 *6*	C^2S: for L=4; 0.16 *8* for L=3 (1f7/2).
5300 *20*	(3)	0.063 *20*	
5357[@] *20*	(4+1)	0.012 *3*	C^2S: for L=4; 0.03 for L=1 ($2p_{1/2}$).
5403 *20*	(3)	0.047 *20*	
5454 *20*	(3)	0.08 *3*	C^2S: for 1f7/2.

† From adiabatic approximation, exact finite-range calculations (1989Ra22). Different orbital ($g_{9/2}$ for L=4,$F_{5/2}$ for L=3 and $p_{1/2}$ or $p_{3/2}$ for L=1) transfers were established from comparison of Ay(θ) data with adiabatic DWBA calculations. Only two cases of L=3 were assigned to $f_{7/2}$. The well-depth and surface-peak methods were employed to generate the bound-state form factor. C^2S values given are from the surface-peak method. Values from the other method, which are not too different, are given by 1989Ra22.

‡ C^2S for L=4 corresponds to $1g_{9/2}$ orbital, for L=3 to $1f_{5/2}$ orbital, and for L=1 to $2p_{3/2}$ orbital, unless otherwise stated. Uncertainty is >30% when not given.

Suggested (by 1970Ki10) as probable member of $\nu 1g^{-2}_{9/2}$ multiplet from nearly constant value of σ/(2J+1).

@ Unresolved doublet.

& For $2p_{1/2}$ orbital.