^{148}Sm(^{3}He,d) 1979St01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 185, 2 (2022)	23-Aug-2022

1979St01: E(^{3}He)=24 MeV beam from McMaster University tandem accelerator. Measured $\sigma(\theta)$, θ(c.m.)=10° to 70°. FWHM=14 keV. DWBA analysis. Uncertainty for cross sections is 10% (relative), and 25% (absolute).

^{149}Eu Levels

E(level)[†]	L	(2J+1)S[‡]	Comments
0	2	1.31	dσ/dΩ(μb/sr)=210 (25°), 217 (50°).
150 *4*	4	0.94	dσ/dΩ(μb/sr)=25 (25°), 33 (50°).
458 *4*	0	1.01	L: $\sigma(\alpha,t)/\sigma(^{3}He,d)$ ratio is higher than expected for L=0, which may indicate an unresolved doublet near this energy. dσ/dΩ(μb/sr)=420 (25°), 394 (50°).
496 *4*	5	7.60	dσ/dΩ(μb/sr)=100 (25°), 157 (50°).
745 *4*			dσ/dΩ(μb/sr)=17 (25°), 19 (50°).
767 *4*	0	0.23	dσ/dΩ(μb/sr)=97 (25°), 95 (50°).
811 *4*	2	0.19	dσ/dΩ(μb/sr)=37 (25°), 44 (50°).
876 *4*	2	0.25	dσ/dΩ(μb/sr)=51 (25°), 60 (50°).
913 *4*	2	0.13	dσ/dΩ(μb/sr)=26 (25°), 23 (50°).
936 *4*	(0)	0.06	dσ/dΩ(μb/sr)=26 (25°), 25 (50°).
1135 *4*	4,(5)	(0.17)	dσ/dΩ(μb/sr)=8 (50°).
1221 *4*	(2)[#]	0.21	dσ/dΩ(μb/sr)=35 (25°), 44 (50°).
1310 *4*	(2)[#]	0.07	dσ/dΩ(μb/sr)=19 (25°), 17 (50°).
1399 *4*	0	0.16	dσ/dΩ(μb/sr)=82 (25°), 81 (50°).
1440 *4*	0	0.14	dσ/dΩ(μb/sr)=70 (25°), 70 (50°).
1495 *4*	2	(0.25)	dσ/dΩ(μb/sr)=86 (25°), 107 (50°).
1537 *4*	0	0.16	dσ/dΩ(μb/sr)=100 (25°), 85 (50°).
1595 *4*			dσ/dΩ(μb/sr)=21 (25°), 14 (50°).
1625 *4*			dσ/dΩ(μb/sr)=15 (25°), 8 (50°).
1655 *4*			dσ/dΩ(μb/sr)=46 (25°), 33 (50°).
1680 *4*			dσ/dΩ(μb/sr)=42 (25°), 22 (50°).
1752 *4*			dσ/dΩ(μb/sr)=42 (25°), 22 (50°).
1819 *4*			dσ/dΩ(μb/sr)=48 (25°), 38 (50°).
1857 *4*			dσ/dΩ(μb/sr)=25 (25°), 19 (50°).
1890 *4*			dσ/dΩ(μb/sr)=40 (25°), 22 (50°).
1945 *4*			dσ/dΩ(μb/sr)=38 (25°), 52 (50°).
2029 *4*			dσ/dΩ(μb/sr)=42 (25°), 30 (50°).
2060 *4*			dσ/dΩ(μb/sr)=48 (25°), 15 (50°).
2092 *4*			dσ/dΩ(μb/sr)=28 (25°), 25 (50°).
2118 *4*			dσ/dΩ(μb/sr)=17 (25°), 19 (50°).
2144 *4*			dσ/dΩ(μb/sr)=15 (25°).
2168 *4*			dσ/dΩ(μb/sr)=21 (25°).
2199 *4*			dσ/dΩ(μb/sr)=22 (25°).

[†] Uncertainty of 4 keV is assigned from a general statement by authors that it is <4 keV.

[‡] The following orbitals are assumed: for L=2, $d_{5/2}$ (all states except 913 and 1495 where both $d_{3/2}$ and $d_{5/2}$ are taken); for L=4, $g_{7/2}$ and for L=5, $h_{11/2}$.

[#] From $\sigma(\alpha,t)/\sigma(^{3}He,d)$.