^{122}Sn(α,t) 2014MiZZ,2012MiZY

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 174, 1 (2021)	15-Apr-2021

2014MiZZ, 2012MiZY: E=37.5 MeV alpha beam was produced from tandem van de Graaff accelerator at A.W. Wright Nuclear Structure Laboratory of Yale University. Target was 100 μg/cm^2 thick, 92.19% enriched ^{122}Sn. Reaction products were momentum analyzed with an Enge split-pole magnetic spectrograph (FWHM≈45-60 keV) and detected by a gas-filled ionization chamber and scintillator. Measured σ(E$_t$,θ), at 6° and 18°. Deduced levels, J, π, L-transfers, spectroscopic factors from DWBA analysis. See also 2004Sc16.

^{123}Sb Levels

Cross sections in comments are from 2014MiZZ. Uncertainties in spectroscopic factors and cross sections from 2012MiZY are statistical.

E(level)[†]	L[‡]	C^{2}S[‡]	Comments
0	4	0.714[#] *29*	dσ/dΩ=6.22 *25* (6°), 2.47 *10* (18°) (mb/sr).
159 *3*			dσ/dΩ=8.57 *34* (6°), 2.57 *10* (18°) (mb/sr).
542 *1*			dσ/dΩ=1.64 *7* (6°), 0.50 *2* (18°) (mb/sr).
713 *1*			dσ/dΩ=0.13 *1* (6°), 0.09 *1* (18°) (mb/sr).
1017 *1*	5	0.005[@] *1*	dσ/dΩ=0.07 *1* (6°), 0.039 *3* (18°) (mb/sr).
1262 *1*	5	0.011[@] *1*	dσ/dΩ=0.14 *1* (6°), 0.078 *5* (18°) (mb/sr).
1509 *1*			dσ/dΩ=1.10 *5* (6°), 0.37 *2* (18°) (mb/sr).
1575 *1*			dσ/dΩ=1.19 *6* (6°), 0.40 *2* (18°) (mb/sr).
1644 *1*	5	0.703[@] *28*	dσ/dΩ=8.61 *33* (6°), 4.29 *16* (18°) (mb/sr).
1732 *1*	(2)	0.169[@] *14*	dσ/dΩ=0.22 *6* (6°), 0.12 *2* (18°) (mb/sr).
1764 *1*	4	0.218[#] *11*	dσ/dΩ=1.63 *8* (6°), 0.57 *4* (18°) (mb/sr).
2289 *3*	5	0.050[@] *3*	dσ/dΩ=0.59 *3* (6°), 0.26 *1* (18°) (mb/sr).
2377 *4*	4	0.033[#] *3*	L: contains L=0 component from (^{3}He,d) data in 2012MiZY. dσ/dΩ=0.24 *2* (6°), 0.12 *1* (18°) (mb/sr).
2452 *4*			dσ/dΩ=0.20 *2* (6°), 0.09 *1* (18°) (mb/sr).
2522 *4*			dσ/dΩ=0.49 *3* (6°), 0.22 *1* (18°) (mb/sr).
2584 *5*			dσ/dΩ=0.13 *4* (6°), 0.07 *1* (18°) (mb/sr).
2633 *5*	4	0.046[#] *6*	dσ/dΩ=0.29 *4* (6°), 0.12 *1* (18°) (mb/sr).
2732 *6*	5	0.025[@] *3*	dσ/dΩ=0.28 *4* (6°), 0.15 *1* (18°) (mb/sr).
2811 *7*	4	0.086[#] *5*	L: contains L=0 component from (^{3}He,d) data in 2012MiZY. dσ/dΩ=0.54 *3* (6°), 0.22 *1* (18°) (mb/sr).
2917 *8*	4	0.054[#] *5*	dσ/dΩ=0.32 *3* (6°), 0.13 *1* (18°) (mb/sr).
2972 *10*	5	0.021[@] *3*	dσ/dΩ=0.23 *3* (6°), 0.10 *1* (18°) (mb/sr).
3016 *10*	(5)	0.009[@] *4*	dσ/dΩ=0.09 *4* (6°), 0.04 *1* (18°) (mb/sr).
3156 *11*	5	0.052[@] *3*	dσ/dΩ=0.55 *3* (6°), 0.26 *1* (18°) (mb/sr).
3225 *12*	5	0.022[@] *2*	dσ/dΩ=0.22 *2* (6°), 0.10 *1* (18°) (mb/sr).
3391 *13*	5	0.016[@] *2*	dσ/dΩ=0.17 *2* (6°), 0.09 *1* (18°) (mb/sr).
3464 *14*	4	0.066[#] *4*	dσ/dΩ=0.33 *2* (6°), 0.13 *1* (18°) (mb/sr).
3544 *15*	5	0.018[@] *2*	dσ/dΩ=0.18 *2* (6°), 0.09 *1* (18°) (mb/sr).
3738 *16*	5	0.024[@] *2*	dσ/dΩ=0.23 *2* (6°), 0.10 *1* (18°) (mb/sr).

[†] From 2014MiZZ.
[‡] From DWBA analysis of experimental differential cross sections (2012MiZY).
[#] For J=L−1/2.
[@] For J=L+1/2.