^{112}Sn(d,p),^{114}Sn(d,t) 1972Bo76

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 111, 1471 (2010)	1-May-2009

Others: 1966Co35, E=12 MeV; 1967Sc12, E=15 MeV.
E=12 MeV. Magnetic spectrograph resolution≈9 keV, 80% enriched ^{112}Sn target, 1972Bo76.
Also authors have measured σ(d,t) and σ(d,p).

^{113}Sn Levels

E(level)	J^π‡	L†	C^2S	E(level)	J^π‡	L†	C^2S
0#	$1/2^+$	0	0.57	3584 *5*	$(7/2^-)$	3	0.012
76# *5*	$7/2^+$	4	0.23	3696 *5*	$(7/2^-)$	3	0.007
407# *5*	$5/2^+$	2	0.15	3743 *5*	$(7/2^-)$	3	0.012
496# *5*	$3/2^+$	2	0.60	3796 *5*	$(7/2^-)$	3	0.005
735# *5*	$11/2^-$	5	1.00	3808 *5*	$(7/2^-)$	3	0.007
1014# *5*	$3/2^+,5/2^+$	2	0.02,0.014	3822 *5*	$(7/2^-)$	3	0.006
1222? *5*				3846 *5*	$(3/2^-,3/2^+)$	1,2	0.005,0.01
1314 *5*	$3/2^+,5/2^+$	2	0.014,0.01	3873 *5*	$(7/2^-)$	3	0.009
1537 *5*	$(7/2^+)$	(4)	0.27	3906 *5*	$(7/2^-)$	3	0.016
1556# *5*				3960 *5*			
1646 *5*	$3/2^+$	2	0.044	4022 *5*	$(3/2^-,3/2^+)$	1,2	0.003,0.01
1745 *5*	$3/2^+$	2	0.011	4044 *5*	$(7/2^-)$	3	0.009
1817# *5*	$1/2^+$	0	0.036	4233 *5*	$(7/2^-)$	3	0.011
1907 *5*				4265 *5*	$(7/2^-)$	3	0.029
1939# *5*	$(7/2^-)$	(3)	0.012	4315 *5*	$(7/2^-)$	3	0.007
2050 *5*	$(3/2^-)$	1	0.007	4335 *5*			
2105 *5*	$(3/2^-)$	1	0.005	4343 *5*	$(7/2^-)$	3	0.007
2129# *5*	$3/2^+,5/2^+$	2	0.04,0.026	4364 *5*			
2203 *5*				4397 *5*	$(7/2^-)$	3	0.006
2272# *5*	$(3/2^-)$	1	0.007	4430 *5*	$(7/2^-)$	3	0.021
2540# *5*	$(7/2^-)$	3	0.028	4438? *5*			
2596 *5*	$(3/2^-,3/2^+)$	1,2	0.003,0.01	4504 *5*			
2620# *5*	$1/2^+$	0	0.027	4589 *5*	$(7/2^-)$	3	0.016
2764 *5*	$(7/2^-)$	3	0.008	4609 *5*	$(7/2^-)$	3	0.018
2780# *5*				4649 *5*			
2862# *5*	$(7/2^-)$	3	0.040	4992 *5*	$(7/2^-)$	3	0.009
3004# *5*	$(3/2^-)$	1	0.009	5012 *5*	$(7/2^-)$	3	0.017
3080 *5*	$(7/2^-)$	3	0.008	5067 *5*	$(7/2^-)$	3	0.015
3204 *5*	$(3/2^-)$	1	0.012	5239 *5*	$(7/2^-)$	3	0.018
3307 *5*	$(7/2^-)$	3	0.045	5291 *5*	$(7/2^-)$	3	0.009
3418 *5*	$(7/2^-)$	3	0.018	5318 *5*	$(3/2^-,7/2^-)$	1,3	0.005,0.01
3494 *5*	$(7/2^-)$	3	0.015	5450 *5*	$(7/2^-)$	3	0.013
3499 *5*				5647 *5*	$(7/2^-)$	3	0.008
3539 *5*	$(7/2^-)$	3	0.020				

† Based on angular distributions at 10 angles (10°−69°) compared with DWBA calc. For L≥3, the agreement with DWBA is rather poor.
‡ In the lighter Sn isotopes, the d5/2 shell-model state is almost full, while the d3/2 state is relatively empty. For L=2, J was therefore assigned 5/2 or 3/2 from comparison of σ(d,t) and σ(d,p). For L=1 and L=3, J was assigned 3/2 and 7/2, respectively, from shell-model syst as corresponding to the lower energy levels.
# Also observed by 1967Sc12.