^{116}Sn(p,p′)   1983Wi07

	Type	Author	History Citation	Literature Cutoff Date
	Full Evaluation	Jean Blachot	NDS 111, 717 (2010)	1-Dec-2009

E=25 MeV, mag spect, DWBA (1983Wi07), FWHM=10-15 keV.
E=24.5 MeV, mag spect, DWBA (1970Be20), FWHM≈15 keV.
E=6.9 MeV, L=0 IAR; 7.0 MeV, L=2 IAR (1967Sc20).
E=11 MeV, mag spect (1965Al11), FWHM=0.2%−0.4%.
E=55 MeV, mag spect, DWBA (1968Ya01).
Others: 1967Ma23, 1968Ko19, 1968Ma34, 1973Te05.

^{116}Sn Levels

E(level)[†]	L[†‡]	S[#]	Comments
0.0			
1291 2	2	0.14	
1758 2			
2030 2	0		
2115 2			
2226 2	(2)		
2266 2	3	0.189	
2365 2	5	0.086	
2390 2	4	0.062	
2529 2	4	0.061	
2547 2	(0)		
2586 2			L: $\sigma(\theta)$ cannot be fit with any L value, suggests unnatural parity, similar to that for a known 1^+ state in ^{58}Ni(p,p′) (1983Wi07).
2650 2	2		
2773 2			
2801 2	4	0.080	
2844 2	2	0.033	
2910 2	7		
2963 2	(2)		
2996 10	(7,8)		L: $\sigma(\theta)$ cannot be fit with any L value by 1983Wi07, L given by 1970Be20 is discrepant. Could be associated with the adopted 3^+ (2996), the shape is similar with 3^+ state in ^{58}Ni(p,p′).
3049 5	4	0.065	
3073 5	2		
3108 5	(7)		L: from 1983Wi07, L=(6) (1970Be20). The evaluators assume that the peak corresponds to the known 5^- level at 3105 but could include a contribution from the 3097 $4+$ level.
3160 5			
3184 5	3		
3197 5	0		
3231 5	2		
3256 5			
3277 10	(8)		L: from 1970Be20. Value is discrepant with adopted $J^{\pi}=6^+$, but peak is probably not a separate level. Could include the 3256 with $J^{\pi}=(3^-,4,5^-)$ and/or 3289 level with J<5.
3319 10			E(level): reported only by 1965Al11.
3340 10	(3)		L: from 1970Be20; 1983Wi07 do not report L but the shape of their fit is almost identical to the 2586 level which has $J^{\pi}=1^+$.
3374 10			
3423 5	(1)		L: from 1983Wi07. L=2 (1970Be20).
3454 5	(4)		L: from (1970Be20).
3472 5			E(level): probably corresponds to 3470 $2+$ level? however, fit not consistent with L=2.
3510 5	4		
3523 5			
3579 5			
3626 5	4		

^{116}Sn(p,p') **1983Wi07 (continued)**

^{116}Sn Levels (continued)

E(level)[†]	L[†‡]	Comments
3652 5		
3713 5		
3747 5		
3772 5		
3807 5	2	
3851 5	(2)	L: from 1983Wi07. L=(6) (1970Be20). The fit of 1983Wi07 is good at small angles but requires a higher component at $\theta>50°$.
3915 5	2	L: from (1970Be20).
3952 5		
4019 10	(5)	
4085 10		
4157 10		
4203 10		
4272 10		

[†] From 1983Wi07 for E<4000. For higher values from 1970Be20.
[‡] From DWBA analysis of angular distribution, $\theta=20°-120°$ (1970Be20).
[#] Deformation parameter from DWBA analysis (1968Ya01,1970Be20).