^{124}Sn(p,p′) 1972Al18,1970Be20,1965Al11

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. Katakura, Z. D. Wu	NDS 109, 1655 (2008)	1-Apr-2008

1972Al18: E=10.614 MeV ($f_{7/2}$ analog resonance); magnetic spectrograph FWHM=25 keV.
1970Be20: E=24.5 MeV; magnetic spectrograph FWHM=20 keV.
1965Al11: E=11 MeV; magnetic spectrograph FWHM=30 keV.
1967Sc20: E=7.8 MeV, d3/2 IAR; E=8.0 MeV, s1/2 IAR; E=10 MeV; semi.
1992Ke07: reanalysis of 1970Be20 for β_2 and β_3.
Others: 1964Ne10, 1968Ma34, 1974Wh06, 1975Gu07, 1976Sc28, 1979Li03, 1980Dr03, 1985Gu07, 1987Ab05, 1989Va02.

^{124}Sn Levels

β_L from 1970Be20 are calculated from author's G_L, where $\beta_L^2=G_L/K$ with K=995, 1023, and 1083 for L=2, 3, and 4, respectively.

E(level)†	Jπ&	L@	Comments
0.0			
1132 *10*		2	β_2=0.140 *10* (1992Ke07). Others: 0.108 *7* (1968Ma34), 0.109 *11* (1989Va02); and 0.119 *4* (1970Be20), see comment on β_2 for 2428L.
2100 *10*		4	β_4=0.067 (1970Be20).
2123 *10*		(2)	
2199‡ *10*			
2206 *10*		5(+4)	E(level): doublet. Other: 2217 *10* (1965Al11).
2328 *10*		7	
2428 *10*		2	β_2=0.052 (1970Be20).
2448 *10*		(8)	
2606 *10*		3	β_3=0.140 *10* (1992Ke07); others: 0.133 *20* (1968Ma34), 0.123 *12* (1989Va02); and 0.138 *7* (1970Be20).
2678‡ *10*	(0^+)		Jπ: from p(θ) from IAR (1967Sc20).
2706 *10*		(4)	β_4=0.041 (1970Be20).
2880# *20*			
2950# *20*			
3002 *10*		3	
3130# *20*	(3^-,5^-)		
3151 *10*		4	β_4=0.030 (1970Be20).
3225 *10*		2	β_2=0.043 (1970Be20).
3275 *10*			E(level): other: 3250 *20* (1972Al18).
3324?‡ *10*			
3359 *10*		4	β_4=0.071 (1970Be20).
3409 *10*		4	E(level): others: 3420 *20* (1972Al18), 3421 *10* (1965Al11). β_4=0.054 (1970Be20).
3500# *20*		3	E(level): others: 3485 *10* (1965Al11), 3509 *10* (subtracted 7 keV from 1970Be20). β_3=0.038 (1970Be20).
3560# *20*	(3^-,5^-)		
3570 *10*		2	
3595 *10*			E(level): other: 3610 *20* (1972Al18).
3642 *10*			
3695 *10*		(6,7)	
3752 *10*			
3787 *10*			
3820 *10*	(3^-,5^-)		
3872 *10*		(6)	
3902 *10*		2	
3930# *20*			

Continued on next page (footnotes at end of table)

^{124}Sn(p,p′) 1972Al18,1970Be20,1965Al11 (continued)

^{124}Sn Levels (continued)

E(level)[†]	J$^{\pi}$[&]	L[@]	Comments
3980[#] *20*			
4030[#] *20*			E(level): other: 4012 *10* (subtracted 7 keV from 1970Be20).
4120[#] *20*			
4152 *10*		2	E(level): other: 4180 *20* (1972Al18).
4274 *10*		(2)	E(level): other: 4290 *20* (1972Al18).
4343 *10*			
4400 *20*			
4450 *20*			
4520 *20*			
4560 *20*			
4570 *20*			
4620 *20*	(3$^-$,4$^-$,5$^-$)		
4660 *20*	3$^-$		J$^{\pi}$: from Adopted Levels. 1972Al18 gives (3$^-$,4$^-$).
4710 *20*			
4770 *20*	(3$^-$,4$^-$)		
4870 *20*	3$^-$		J$^{\pi}$: from Adopted Levels. 1972Al18 gives (3$^-$,4$^-$).
4960 *20*	(3$^-$,4$^-$,5$^-$)		
5020 *20*	(3$^-$,4$^-$)		
5050 *20*			
5100 *20*			
5200 *20*	(3$^-$,4$^-$)		
5250 *20*			
5290 *20*			
5320 *20*			
5370 *20*			
5410 *20*			
5470 *20*			
5520 *20*			
5590 *20*			
5640 *20*			
5710 *20*			
5760 *20*			
5800 *20*			
5870 *20*			

[†] E(levels)>4370 are from 1972Al18. E(levels)<4370 are those of 1970Be20 lowered by 7 keV based on comparison with γ-connecting levels in the Adopted Levels, unless otherwise noted.
[‡] From 1965Al11.
[#] From 1972Al18.
[@] From DWBA analysis (1970Be20).
[&] From fits to angular distributions calculated using Breit-Wigner formula (θ=80°−165°) (1972Al18), unless otherwise noted.