^{80}Se(^{3}He,d)   **1983Zu01,1967Ev03**

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 199,271 (2025)	1-Sep-2024

1983Zu01: E=24 MeV. 99.4% ^{80}Se target. Magnetic spectrograph with position-sensitive gas proportional counters or nuclear emulsions, FWHM≈18 to 30 keV. Measured $\sigma(\theta)$, θ=5° to 60°. DWBA analysis of $\sigma(\theta)$.

1967Ev03: E=15.13 MeV. Magnetic spectrograph with nuclear emulsion plates, θ=12° and 45°, 93.65% ^{80}Se target. FWHM ≈35 keV.

^{81}Br Levels

E(level)[†]	L[@]	C²S′[&]	Comments
0	1	1.29 *13*	
276.9 *20*	3	2.02 *20*	
538.5 *20*	4+1		E(level),C²S′: unresolved doublet. For L=4, C²S′=8.5 *9* if J=7/2, 4.4 *4* if J=9/2; for L=1 component, C²S′=1.17 *12* if J=1/2, 1.01 *10* if J=3/2.
651.9 *20*	1	0.075 *8*	C²S′: if J=3/2; C²S′=0.088 *9* if J=1/2.
770.6 *20*			
792.5 *27*	2		C²S′=0.47 *5* if J=3/2, 0.36 *4* if J=5/2.
832.4 *27*	1	0.145 *15*	C²S′: if J=3/2; C²S′=0.169 *17* if J=1/2.
1107.7 *20*	1		C²S′=0.154 *15* if J=1/2, 0.133 *13* if J=3/2.
1189.9 *21*	3	0.41 *4*	
1325.7 *19*	3	0.211 *21*	
1375.7 *29*	4		C²S′=0.105 *11* if J=7/2, 0.055 *6* if J=9/2.
1545.0 *20*	1		C²S′=0.072 *7* if J=1/2, 0.062 *6* if J=3/2.
1588.0 *27*	0	0.0050 *5*	
1949.9 *20*	4		C²S′=1.78 *18* if J=7/2, 0.93 *9* if J=9/2.
1985.2 *26*	2		C²S′=0.061 *6* if J=3/2, 0.048 *5* if J=5/2.
2055.9 *21*	1		C²S′=0.021 *2* if J=1/2, 0.018 *2* if J=3/2.
2085 *4*	4		C²S′=0.078 *8* if J=7/2, 0.041 *4* if J=9/2.
2122.5 *21*	2		C²S′=0.115 *12* if J=3/2, 0.089 *9* if J=5/2.
2164.1 *22*	1		C²S′=0.104 *10* if J=1/2, 0.090 *9* if J=3/2.
2215? *4*			
2288.4 *21*	0	0.041 *4*	
2477.3 *22*	1+4		C²S′,E(level): unresolved doublet. For L=1 component, C²S′=0.026 *3* if J=1/2, 0.022 *2* if J=3/2. For L=4 component, C²S′=0.191 *19* if J=7/2, 0.101 *10* if J=9/2.
2531.7 *22*	0+1		C²S′,E(level): unresolved doublet. C²S′=0.019 *2* for J=1/2 component. For L=1 component, C²S′=0.049 *5* if J=1/2, 0.044 *4* if J=3/2.
2657.1 *22*	2		C²S′=0.090 *9* if J=3/2, 0.070 *7* if J=5/2.
2704.4 *23*	1		C²S′=0.031 *3* if J=1/2, 0.027 *3* if J=3/2.
2731.5 *27*	2+4		C²S′,E(level): unresolved doublet. For L=2 component, C²S′=0.024 *2* if J=3/2, 0.019 *2* if J=5/2. For L=4 component, C²S′=0.167 *17* if J=7/2, 0.089 *9* if J=9/2.
2797.4 *20*	4+(1,2)		C²S′,E(level): unresolved doublet. If L=1 component: C²S′=0.010 *1* if J=1/2⁻ or 0.009 *1* if J=3/2⁻, and 0.330 *33* if J=7/2⁺ or 0.176 *18* if J=9/2⁺. If L=2 component: C²S′=0.015 *2* if J=3/2⁻ or 0.012 *1* if J=5/2⁻ and 0.29 *3* J=7/2⁺ and 0.157 *16* if J=9/2⁺.
2912.6 *21*			
2940 *3*			
3002 *3*			
3027 *3*			
3067 *3*			
3101[‡] *15*			
3190[#] *50*			
3322[‡] *15*			
3429[‡] *15*			

^{80}Se(^{3}He,d)   **1983Zu01,1967Ev03 (continued)**

^{81}Br Levels (continued)

E(level)[†]	E(level)[†]	E(level)[†]	E(level)[†]
3508[#] 20	3835[‡] 20	4302[#] 15	5632[‡] 15
3598[‡] 20	3965[‡] 15	4428[‡] 15	5791[‡] 20
3680?[‡] 20	4106[#] 20	4512[‡] 15	
3740[#] 20	4174[‡] 20	4559[‡] 15	

[†] From 1983Zu01 if ΔE<5 keV; from 1967Ev03 otherwise. The only levels adopted from 1967Ev03 are those which are not reported in 1983Zu01. Note that energy scale of 1967Ev03 yields energies systematically higher than those of 1983Zu01 (by 6 to 36 keV for E<3100). Also, energies from 1983Zu01 are consistently 1-3 keV higher than adopted values for E<1350.

[‡] From 1967Ev03.

[#] From 1967Ev03. Probably corresponds to unresolved states.

[@] From comparison of $\sigma(\theta)$ with DWBA calculations (1983Zu01).

[&] $C^2S'=(2J_f+1)C^2S$. From DWBA analysis assuming normalization factor=4.42 (1983Zu01); $f_{5/2}$ orbital assumed for L=3 transfer.