

Table 12.5 from (1980AJ01): Resonances in $^{11}\text{B}(n, n)^{11}\text{B}$ ^a

E_n (MeV \pm keV)	$\Gamma_{\text{c.m.}}$ (keV)	$^{12}\text{B}^*$ (MeV)	l	J^π	Comments	
0.0208 ± 0.5 ^b	$\ll 1.4$	3.3889	2	3^- ^c	$\Gamma_n = 3.1 \pm 0.6$ eV ^b	
0.43 ± 10 ^{g,l}	37 ± 5	3.764	1	2^+ ^c		
1.027 ± 11 ^{h,l}	9 ± 4	4.311	0	1^- ^c		
1.09 ^c	broad	4.37	0, 2	2^- ^c		i
1.28 ± 20 ^{g,l}	130 ± 20	4.54	2	4^- ^c		
1.78 ± 20 ^{g,l}	60 ± 20	5.00	1	1^+ ^c		
2.45 ± 20 ^g	110 ± 40	5.61	1	3^+ ^d		
2.58 ± 20 ^g	55 ± 20	5.73	2	3^- ^d		
2.9 ^{d,j}	broad	6.0	0, 2	1^- ^{d,j}		
3.5 ^e	140	6.6	1	1^+ ^j		
3.8 ^d	broad	6.9	0, 2	1^- ^j		
4.55 ^f	≤ 14	7.54	> 3			
(4.68)	45	(7.66)	> 0			
4.80	90	7.77	> 0			
(5.01)	27	(7.96)	> 0			
5.31	65	8.23	2	3^- ^j		
5.49	110	8.40 ^o				
5.59	75	8.49	2	3^- ^j		
(5.85) ^j		(8.73) ^j	(1) ^j	(1 ⁺) ^j		
6.18	120	9.03	0, 2	2^- ^{j,k}		
6.78 ^m	34 ± 5	9.580 ± 0.005				
n						
7.18	100	9.94	> 0			
7.82	65	10.53	> 2			
9.72	120	12.27	> 2			

^a See also [Table 12.5 in \(1968AJ02\)](#).

^b [\(1969MO10\)](#). Also observed in $^{11}\text{B}(n, \gamma)$: $\Gamma_\gamma = 25 \pm 8$ meV [\(1969MO10\)](#), $\Gamma_n = 1.9_{-0.6}^{+0.8}$ eV [[reaction 13 in \(1975AJ02\)](#)].

^c [\(1970LA21\)](#).

^d [\(1973NE19\)](#).

^e [\(1961FO07\)](#).

^f This resonance and all the higher energy ones have been observed by [\(1961FO07\)](#). See also [\(1977WHZZ, 1978WH1B\)](#).

^g [\(1951BO45, 1968AJ02\)](#).

^h [\(1962IM01\)](#).

ⁱ The low penetrability for $l = 2$ neutrons means that the observed width of this level is predominantly $l = 0$. The reduced width is probably $\approx 80\%$ $l = 2$ and 20% $l = 0$ [\(1970LA21\)](#).

^j [\(1977WHZZ, 1978WH1B\)](#) and (R.O. Lane, private communication).

^k $^{12}\text{B}^*(9.0)$ may be due to unresolved resonances.

^l Also observed in $^{11}\text{B}(n, \gamma)$ [\(1962IM01\)](#).

^m [\(1979AU07\)](#).

ⁿ A broad resonance at $E_n = 7.0$ MeV [$^{12}\text{B}^*(9.8)$] is observed in the even polynomial terms of the Legendre expansion coefficients [\(1977WHZZ, 1978WH1B\)](#). See also [\(1979AU07\)](#).

^o May be due to interference of states at 5.3 and 5.6 MeV (R.O. Lane, private communication).