Energy levels [04Ti06]. **$^{8}_{5}$B**

E^* [keV]	J^π	T	Γ_p [keV]	Γ_γ [meV]	σ μb	Γ_γ/Γ_W	$T_{1/2}$ or Γ_{cm}	Ref.	
0.0	2^+	1					770(3) ms	04Ti06	
769.5(25)	1^+	1	35.7(6)	25.2(11)	1.221(77)	2.63(12)	35.6(6) keV	04Ti06	
2320(20)	3^+	1		100(50)		0.38(19)	350(30) keV	04Ti06	
3500(500)	2^-						8(4) MeV	04Ti06	00Ba46
10619(9)	0^+	2					<60 keV	04Ti06	

Additional data on this isotope can be found in [03Ba51, 03Da30, 01Ro32, 00Ba46].
Presented cross section σ of proton capture in ^{7}Be is important for astrophysics.

Energy levels [04Ti06]. **$^{9}_{5}$B**

E^* [keV]	$2J^\pi$	$2T$	L (τ,t)	C^2S (d,t)	C^2S (d,t)	S_N (p,d)	$T_{1/2}$ or Γ_{cm}	Ref.
0.0	3^-	1	0	0.33	0.60	0.44*	0.54(21) keV	74Lu06
1600							≈700 keV	
2361(5)	5^-	1	0,2	0.29	0.42	0.60	81(5) keV	67Co32
2750(300)	1^-						3130(200) keV	
2788(30)	5^+	1					550(40) keV	
4300(200)							1.6(2) MeV	
6970(60)	7^-	1				0.52	2.0(2) MeV	69Ba05
11650(60)	$\langle 7\rangle^-$	1				1.12	800(50) keV	69Ba05
12190(40)	5^-	1					450(20) keV	
14010(70)	X^-	1					0.39(11) MeV	
14655.0(25)	3^-	3					395(42) eV	
14700(200)	$\langle 5\rangle^-$	1				0.32	1.35(20) MeV	69Ba05
15290(40)		1						
15580(40)		1						
16024(25)		$\langle 1\rangle$					180(16) keV	
16710(100)	$\langle 5^+\rangle$	$\langle 1\rangle$						
17076(4)	1^-	3					22(5) keV	
17190(25)							120(40) keV	
17540(100)	$\langle 7^+\rangle$	$\langle 1\rangle$						
17637(10)							71(8) keV	
18600							1000 keV	04Ti06
			67Cr04	74Lu06	67Co32	69Ba05		Ref.

Additional data on this isotope can be found in [01Bu05, 00Ge09, 95Ti06, 68Ku04, 66Ca02].
* see comparison with the theory and corresponding references in [04Ti06].
T and uncertainties in E^* and $T_{1/2}$ are given in Supplement.

Energy levels and branching ratios [04Ti06, 88Aj01]. **$^{10}_{5}$B**

E^*	J^π	T	ℓ_p	S'	S_N	C^2S'	S_N	S'^+_p	S_{dn}	S_N	I_n	ℓ_n	S^-_n	Γ_γ	Ref.
[keV]				(τ,d)	(τ,d)	(τ,d)	(α,t)	rel.u.	rel.u.	(d,n)	arb.u		rel.u.	[meV]	
0.0	3^+	0	1	1.00	1.00	3.30	0.89	0.88	1.0	1.02	610	1	1.0		92Mi03
718.35(4)	1^+	0	1	0.77	1.8	2.76	1.00	1.38	1.97	1.98	540	1	0.22	6.45	92Mi03
1740.2(2)	0^+	1	1	0.37	2.6	1.20	1.58	1.40	1.42	1.91	195	1	0.73	94*	92Mi03
2154.3(5)	1^+	0	1	0.31	0.71	0.82	0.52	0.5	0.41	0.62	170	1	0.44	0.065	92Mi03
3587.1(5)	2^+	0	1	0.21	0.30	0.29	0.28		0.10	0.13	100	1	0.09	0.025	92Mi03
4774.0(5)	3^+	0	1	0.11	0.15	0.10				0.02	24	1	0.09	0.09	92Mi03
			⟨3⟩			≤0.8				0.05					92Mi03
5110.3(6)	2^-	0	0			0.34	≤0.3			0.30				21	92Mi03
			2			0.14				0.10					92Mi03
5163.9(6)	2^+	1	1	0.66		0.86	≤1.9		0.43	0.50	580	1	1.81	66	92Mi03
5180(10)	1^+	0		incl		incl	≤3.1		incl						04Ah02
5919.5(6)	2^+	0	1	0.84	1.2	2.05	0.48		0.49	0.81	630			112	92Mi03
6025.0(6)	4^+	0	⟨3⟩			≤0.2								0.010	88Aj01
6127.2(7)	3^-	0	⟨2⟩	0.90		3.04	0.24			0.74	830				92Mi03
6560(2)	4^-	0	⟨2⟩	0.86		2.01				0.48	680				92Mi03
6873(5)	1^-	0+1												<90	04Ah02
7002(6)	⟨3^+⟩	0													
7430(10)	1^-	0+1													
7469(6)	2^+	1												11700	
7480(4)	2^-	0+1												5000	
7559.9(6)	0^+	1													
7670(30)	⟨1^+⟩	⟨0⟩													
7750(30)	2^-	0+1												4320	
7819		1–					0.28								01Le05
7960(70)		0													01Le05
8070	2^+	⟨0⟩													
8680	⟨3^+⟩	0													
8889(6)	3^-	1					≤0.1								01Le05
8894(2)	2^+	1					≤1.5								01Le05
9580(60)		0													01Le05
10840(10)	⟨2^+–4^+⟩														01Le05
11520(35)															
12560(30)	⟨0^+–2^+⟩														
13490(5)	⟨0^+–2^+⟩														
14400(100)															
18200(200)															
18430	2^-	1													
18800	2^+														
19290	2^-	1													
20100(100)	1^-	1													
21100															
23100(100)															

(continued) **$^{10}_{5}$B**

E^*	J^π	T	ℓ_p	S'	S_N	C^2S'	S_N	S'^+_p	S_{dn}	S_N	I_n	ℓ_n	S^-_n	Γ_γ	Ref.
[keV]				(τ,d)	(τ,d)	(τ,d)	(α,t)	rel.u.	rel.u.	(d,n)	arb.u		rel.u.	[meV]	
				67Cr04					73Pa14	92Mi03			69De10		Ref.
					67Cr04		80Ha33	73Pa14	80Ha33		92Mi03			04Ti06	Ref.

Additional data on this isotope can be found in [03So29, 02Ho05, 01Le05, 98De34, 67Pa01, 68Ga13, 67Le0A, 65Bu10].

Abundance: 19.8(3) %.

* $M1$ transition to the first excited state; other Γ_γ correspond to the ground state transitions.

Parameters of the proton transfer $(2J+1)C^2S$ from the (τ,d) reaction [67Cr04], S_N from the (α,t) reaction, S'^+_p from the (^{7}Li,^{6}He) reaction and S_{dn} [73Pa14] averaged in [80Ha33] are discussed in [88Aj01, 80Ha33];

For the (d,n) reaction values S_N and the neutron yield I_n (in counts per bin) [92Mi03] are given together; parameters S^-_n from the neutron pickup reaction (τ,α) [69De10] are given in the center.

Data on β_L from the ^{10}B(p,p), ^{10}B(d,d) and ^{10}B(^{3}He,^{3}He) reactions can be found in [79Aj01]; relative spectroscopic factors from three neutron pickup reactions (p,d), (d,t), (τ,α) [69De10, 69Ba05] are given in Supplement.

Data for this isotope are considered in vol. LB I/18A.

Energy levels and branching ratios [04Ti06, 88Aj01]. Part 2 **$^{10}_{5}$B**

E^*	J^π	S_N	S_N	S_N	$\Gamma_{\gamma\circ}$	Γ_γ/Γ_W	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
									E^*_f: 0.0	718	1740	2154	3587
[keV]		(p,d)	(d,t)	(τ,α)	[meV]		Γ_{cm}		J^π_f: 3^+	1^+	0^+	1^+	2^+
0.0	3^+	1.0	1.0	1.0			Stable	92Mi03					
718.35(4)	1^+	0.24	0.30	0.22	$61(5)\cdot10^{-5}$	3.24(2)	0.71(1) ns	92Mi03	100				
1740.2(2)	0^+	0.53	0.64	0.73	$90(3)\cdot10^{-8}$	4.2(18)	5(2) fs	92Mi03	<0.2	100			
2154.3(5)	1^+	0.52	0.41	0.44	$36(4)\cdot10^{-3}$	1.33(16)	1.5(1) ps	92Mi03	21(2)	27(1)	52(2)		
3587.1(5)	2^+	0.12	0.15	0.09	$41(3)\cdot10^{-2}$	$2.6(15)\cdot10^{-4}$	106(8) fs	92Mi03	19(3)	67(3)	<0.3	14(2)	
4774.0(5)	3^+		0.12	0.09			7.8(12) eV	92Mi03	0.5(1)	>99			
								92Mi03					
5110.3(6)	2^-					$5(1)\cdot10^{-4}$	0.98(7) keV	92Mi03	64(7)	31(7)	5(5)		
								92Mi03					
5163.9(6)	2^+	2.67	1.91	1.81	$100(7)\cdot10^{-5}$	$23(6)\cdot10^{-3}$	1.8(4) eV	92Mi03	4.4(4)	22(1)	0.7(2)	65(1)	7.7(3)
5180(10)	1^+						110(10) keV	04Ah02			[100]		
5919.5(6)	2^+				1.2(4)	$26(5)\cdot10^{-3}$	5.82(6) keV	92Mi03	82(5)	18(5)			
6025.0(6)	4^+				93(4)	$23(4)\cdot10^{-3}$	54(24) eV	88Aj01	[100]				
6127.2(7)	3^-				$40(5)\cdot10^{-4}$		1.52(8) keV	92Mi03					
6560(2)	4^-				$33(5)\cdot10^{-4}$		25(1) keV	92Mi03					
6873(5)	1^-					<84	120(5) keV	04Ah02		20.7	55.0	13.5	
7002(6)	$\langle 3^+\rangle$						100(10) keV						
7430(10)	1^-						100(10) keV						
7469(6)	2^+					1.34(8)	65(10) keV						
7480(4)	2^-					0.04(2)	80(8) keV						
7559.9(6)	0^+						2.65(18) keV			78.8		9.4	

(continued) **$^{10}_{5}$B**

E^*	J^π	S_N	S_N	S_N	$\Gamma_{\gamma\circ}$	Γ_γ/Γ_W	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
									E_f^*:	0.0	718	1740	2154	3587
[keV]		(p,d)	(d,t)	(τ,α)	[meV]		Γ_{cm}		J_f^π:	3^+	1^+	0^+	1^+	2^+
7670(30)	$\langle 1^+ \rangle$						250(20) keV							
7750(30)	2^-					0.03(1)	210(60) keV							
7819							260(30) keV	01Le05						
7960(70)							285(91) keV	01Le05						
8070	2^+						0.8(2) MeV							
8680	$\langle 3^+ \rangle$						≈200 keV							
8889(6)	3^-						84(7) keV	01Le05						
8894(2)	2^+						40(1) keV	01Le05		x				
9580(60)							257(64) keV	01Le05						
10840(10)	$\langle 2^+–4^+ \rangle$						0.3(1) MeV	01Le05						
11520(35)							0.5(1) MeV							
12560(30)	$\langle 0^+–2^+ \rangle$						100(30) keV							
13490(5)	$\langle 0^+–2^+ \rangle$						300(50) keV							
14400(100)							0.8(2) MeV							
18200(200)							1.5(3) MeV							
18430	2^-						340 keV							
18800	2^+						<600 keV							
19290	2^-						190(20) keV							
20100(100)	1^-						broad							
21100														
23100(100)							broad							
			69De10					Ref.						
		69De10		69De10	04Ti06	04Ti06		Ref.						

Energy levels and branching ratios [04Ti06, 88Aj01]. Part 3 **$^{10}_{5}$B**

E^*	J^π		Branching ratios in percentage			
		E_f^*:	5110	5163.9	5180	5919.5
[keV]		J_f^π:	2^-	2^+	1^+	2^+
6873(5)	1^-		4.1	3.1		3.6
7559.9(6)	0^+				11.8	

Energy levels and branching ratios [90Aj01]. **$^{11}_{5}$B**

E^*	$2J^\pi$	$2T$	S_N	$r_\circ$	S_N	S_N	S_N	$T_{1/2}$ or	Ref.		
[keV]			(e,e′p)	fm	(d,τ)	(d,τ)	(d,τ)	Γ_{cm}			
0	3^-		1.72(11)	1.35(2)	2.98	1.72(11)	1	Stable	01Kr01	88Va09	75Ma41
2124.693(27)	1^-		0.26(2)	1.65(2)	0.69	0.26(2)	0.26	3.8(3) fs	01Kr01	88Va09	75Ma41

(continued) **$^{11}_{5}$B**

E^* [keV]	$2J^\pi$	$2T$	S_N (e,e′p)	$r_\circ$ fm	S_N (d,τ)	S_N (d,τ)	S_N (d,τ)	$T_{1/2}$ or Γ_{cm}	Ref.
4444.89(50)	5^-							1.18(4) keV	
5020.31(30)	3^-		0.20(2)	1.51(2)	0.31	0.20(2)	0.10	0.34(1) keV	01Kr01 88Va09 68Hi01
6742.9(18)	7^-							22(5) keV	
6791.8(3)	1^+							1.7(2) keV	
7285.5(4)	5^+						0.13	0.57(4) keV	
7977.8(4)	3^+							0.57(6) keV	
8560(2)	$\langle 3^- \rangle$							0.70(7) keV	
8920(2)	5^-							4.37(2) eV	
9185(2)	7^+							1.9(+15-11) eV	
9274(2)	5^+							4 keV	
9820(25)	$\langle 1^+ \rangle$								
9876(8)	3^+							110(15) keV	
10260(15)	3^-							165(25) keV	04Ah02
10330(11)	5^-							110(20) keV	
10597(9)	7^+							100(20) keV	
10960(50)	5^-							4.5 MeV	
11265(17)	9^+							110(20) keV	
11444(19)								103(20) keV	
11600(30)	5^+							170(30) keV	
11886(17)	5^-							200(20) keV	
12000(200)	7^+							≈1 MeV	
12557(16)	1^+	3						210(20) keV	90Sa24
12916(12)	1^-	3						200(25) keV	90Sa24
13137(40)	9^-							426(40) keV	
13160	5^+,7^+							430 keV	
14040(100)	11^+							0.5(2) MeV	
14340(20)	5^+							254(18) keV	
14565(15)								≤30 keV	
15290(25)	$\langle 3\text{–}7 \rangle^+$	3						250(50) keV	90Sa24
16437(20)		3						≤30 keV	90Sa24
17330								≈1 MeV	
17430(50)		3						100(30) keV	90Sa24
18000		3						0.87(10) MeV	90Sa24
18370(50)	$\langle 1\text{–}5 \rangle^+$							260(80) keV	
19130(30)	X^+	3						115(25) keV	90Sa24
19700	$\langle 1^+ \rangle$								
21270(50)		3						300(30) keV	90Sa24
23700	$\langle 1\text{–}5 \rangle^+$								
26500									

(continued) **$^{11}_{5}$B**

E^* [keV]	$2J^\pi$	$2T$	S_N (e,e′p)	$r_\circ$ fm	S_N (d,τ)	S_N (d,τ)	S_N (d,τ)	$T_{1/2}$ or Γ_{cm}	Ref.
					75Ma41 68Hi01	88Va09			Ref. Ref.

Additional data on this isotope can be found in [03Yo01, 90Sa24, 94Ni04, 84Ha13, 82Zw02, 67Po01].
Abundance: 80.2(3) %.
Based on data for the (e,e′p) reaction reanalysis [01Kr01] of measured spectroscopic factors from the (d,τ) reaction (the first column) resulted in the values presented in the second column; for comparison data from [75Ma41, 88Va09, 73Fu02] are given as well.
Data for this isotope are considered in vol. LB I/18A.

Energy levels and branching ratios [90Aj01]. Part 2 **$^{11}_{5}$B**

E^*	$2J^\pi$	Branching ratios in percentage					
		E_f^*:	0	2125	4445	5020	6743	7285
[keV]		$2J_f^\pi$:	3^-	1^-	5^-	3^-	7^-	5^+
2124.693(27)	1^-		x					
4444.89(50)	5^-		x					
5020.31(30)	3^-		x	x				
6742.9(18)	7^-		x		x			
6791.8(3)	1^+		x	x		x		
7285.5(4)	5^+		x		x	x		
7977.8(4)	3^+		x	x				x
8560(2)	$\langle 3^- \rangle$		x	x	x	x		
8920(2)	5^-		x		x			
9185(2)	7^+		x		x		x	

Energy levels and branching ratios [90Aj01, 03So29]. **$^{12}_{5}$B**

E^*	J^π	T	ℓ_n	S_{dp}	L	I_p	$T_{1/2}$ or	Ref.	Branching ratios in percentage			
									E_f^*:	0	953.14	1673.65
[keV]					(t,p)	(t,p)	Γ_{cm}		J_f^π:	1^+	2^+	2^-
0	1^+	1	1	0.69	2	1.00	20.20(2) ms	90Aj01				
953.14(60)	2^+		1	0.55	2	0.3	180(28) fs	90Aj01		100		
1673.65(60)	2^-		0	0.57	1	0.5	<35 fs	90Aj01		96.8(4)	3.2(4)	
2620.8(12)	1^-		0	0.75	3	0.06	<49 fs	90Aj01		6(1)	80(3)	14(3)
2723(11)	0^+		1	0.21	4	0.01		90Aj01		[100]		
3389.1(15)	3^-		2	0.58			3.1(6) eV	90Aj01				
3759(6)	2^+		1		2	0.3	40(4) keV					
4301(7)	1^-						9(4) keV					

(continued) **$^{12}_{5}$B**

E^* [keV]	J^π	T	ℓ_n	S_{dp}	L (t,p)	I_p (t,p)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage E_f^*: 0 953.14 1673.65 J_f^π: 1^+ 2^+ 2^-
4460	2^-								
4518(8)	4^-		2			1.8	86(20) keV	78Aj02	
5000(20)	1^+						50(15) keV		
5612(8)	3^+						110(40) keV		
5726(8)	3^-						50(20) keV		
6000	1^-								
6600	1^+						140 keV		
7060	1^-								
7545(20)							≤14 keV		
7670	2^-						45 keV		
7700(100)	1^-						1.9(1) MeV		
7836(20)	1^-						60(40) keV		
7937(20)	$\langle 1^- \rangle$						27 keV		
8100(100)							0.9(2) MeV		
8120(20)	$\langle 3^- \rangle$					1.1		78Aj02	
8240(30)	3^-						65 keV		
8376(20)							40(20) keV		
8580(30)	$\langle 3^- \rangle$						75 keV		
8707(20)	$\langle 3^- \rangle$								
9040(20)	1^-					2.0	95(20) keV	78Aj02	
9175(20)	$\langle 2^- \rangle$								
9430(20)						0.7	85(30) keV	78Aj02	
9585(5)	3^-					4.6	34(5) keV	78Aj02	
9758(20)									
9830									
10000(40)							100 keV		
10110(40)									
10220(20)						3.6	<25 keV	78Aj02	
10435(20)							75(40) keV		
10590(20)						0.8	<30 keV	78Aj02	
10900(20)						1.1	30(10) keV	78Aj02	
11080									
11310(30)							130(60) keV		
11590(20)							75(25) keV		
12345(25)						4.8	100(30) keV	78Aj02	
12750(50)	0^+	2					85(40) keV		
13330(30)							50(20) keV		
13400(100)									
14820(100)	$\langle 2^+ \rangle$	$\langle 2 \rangle$					≤200 keV		
15500									
21800(4000)	$\langle 3^- \rangle$						1.3(4) MeV		
23900(1000)	$\langle 1^- \rangle$						6(1) MeV		
						78Aj02		Ref.	

Additional data on this isotope can be found in [02Ra15, 01Li45, 01De20, 94Ma05, 93Bo03].
I_p is the relative intensity of protons from the (t,p) reaction at 5.5° [78Aj02].

Energy levels and branching ratios [91Aj01, 00Gu23, 78Aj02]. **$^{13}_{5}$B**

E^*	$2J^\pi$	L	I_p	L	σ	$T_{1/2}$ or	Ref.	Branching ratios in percentage			
								E_f^*:	0.0	3534.6	3712.6
[keV]		(t,p)	(t,p)		mb	Γ_{cm}		$2J_f^\pi$:	3^-		
0.0	3^-	0	1.00	0	113(15)	17.3(2) ms	78Aj02				
				+2	14(3)						
3483(5)	3^+	[1]	0.1	1	18(3)		78Aj02		100		
3535(3)		[2]	0.3			>0.2 ps	78Aj02				
3681(5)	5^+	[1]	0.6	1	30(5)		78Aj02				
3713(5)		[2]	0.4			<0.27 ps	78Aj02		100	<10	
4131(6)		[2]	1.6			0.043(35) ps	78Aj02		75(11)	25(11)	<11
4829(6)	1^-		0.05	2	1.2(12)		78Aj02				
5024(6)		[1]	0.3				78Aj02				
5106(10)			0.1			60(10) keV	78Aj02				
5388(6)			1.1			10(10) keV	78Aj02				
5557(7)											
6167(6)			1.6				78Aj02				
6425(7)			1.5			36(5) keV	78Aj02				
6934(9)		≥4	0.2			55(15) keV	78Aj02				
7516(8)											
7859(20)											
8133(7)			1.2			100(15) keV	78Aj02				
8683(7)			0.5			89(20) keV	78Aj02				
9440(30)			0.1			81(25) keV	78Aj02				
9500											
10220(20)			2.1			210(20) keV	78Aj02				
10890(20)											
11800											
			78Aj02		00Gu23		Ref.				

I_p is the relative intensity of protons from the (t,p) reaction at 5.5° [78Aj02].

Energy levels [91Aj01, 00Ka21, 02Ao03, 97Ao04, 97Ao01]. **$^{14}_{5}$B**

E^*	J^π	σ (^{14}C,^{12}N)	$T_{1/2}$ or	Ref.
[keV]		μb/sr	Γ_{cm}	
0.0	2^-		12.5(5) ms	
740(40)	$\langle 1^- \rangle$			
1280(20)	1^+			97Ao04
1380(30)	$\langle 3^- \rangle$			
1860(70)	2^-	0.076(13)	1.0(5) MeV	00Ka21
2080(50)	$\langle 4^- \rangle$	incl		
2320(40)				
2970(40)				
4560(50)		0.042(10)		00Ka21
5400*		0.041(10)		00Ka21

(continued) $^{14}_{5}\mathbf{B}$

E^* [keV]	J^π	σ (^{14}C,^{12}N) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
5950(80)		0.072(13)		00Ka21
6200*		0.041(10)		00Ka21
6950(50)		0.157(19)		00Ka21
8030(50)		0.350(28)	600 keV	00Ka21
8860*		0.045(10)	200 keV	00Ka21
10150(90)		0.204(22)	600 keV	00Ka21
		00Ka21		

Additional data on this isotope can be found in [02Ao03].
Uncertain [00Ka21].