Energy levels and branching ratios [04Ti06]. $^{9}_{4}$**Be**

E^* [keV]	$2J^\pi$	$2T$	C^2S (d,τ)	C^2S (d,τ)	R (p,p′)	C^2S (e,e′p)	Γ_γ [eV]	$\Gamma_{\gamma\circ}$ [meV]	mult.	Γ_γ/Γ_W	Ref.
0.0	3^-	1	0.36	0.60	1.0	1.00(3)*					74Lu06
1684(7)	1^+							300(120)	E1	0.22(9)	04Ti06
2429.4(13)	5^-	1	0.41	0.42	1.0	0.958(25)		89(19)	M1	0.30(3)	67Co32
								1.89(14)	E2	24.4(18)	
2780(120)	1^-										
3049(9)	5^+							300(250)	E1	0.04(3)	04Ti06
4704(25)	$\langle 3\rangle^+$										
5590(100)	$\langle 3^-\rangle$										
6380(60)	7^-					0.668(28)		82(35)	E2	8.5(37)	04Ti06
6760(60)	9^+	1			4.5						
7940(80)	$\langle 5^-\rangle$										
11283(24)	$\langle 7^-\rangle$	[1]			2.0	1.299(36)					04Ti06
12200	$[3^-]$	[1]									
13790(30)	$[5^-]$	[1]			0.6						
14392(2)**	3^-	3			1.0		16.1(14)	6600(400)	M1	0.106(7)	04Ti06
14480(90)	$\langle 5^-\rangle$	1				0.260(25)					04Ti06
15100(50)											
15970(30)	$[5^-]$	1			0.4						
16671(8)	$\langle 5^+\rangle$	1			0.6						
16975(1)**	1^-	3			1.4		23.8(16)	16900(1000)	M1	0.165(10)	04Ti06
17298(7)	$\langle 5\rangle^-$	[3]			1.0						
17493(7)	$\langle 7\rangle^+$	1			0.6						
18020(50)											
18580(40)											
18650(50)	$\langle 5^-\rangle$	$\langle 3\rangle$			0.5						
19200(50)											
19420(50)	$[9^+]$	[3]			0.4						
19900(200)											
20510(30)											
20750(30)											
21400(200)											

(continued) $^{9}_{4}$Be

E^* [keV]	$2J^\pi$	$2T$	C^2S (d,τ)	C^2S (d,τ)	R (p,p$'$)	C^2S (e,e$'$p)	Γ_γ [eV]	$\Gamma_{\gamma\circ}$ [meV]	mult.	Γ_γ/Γ_W	Ref.
22400(200)											
23800(200)											
27000(500)											
			74Lu06	67Co32	91Di03	04Ti06	04Ti06	04Ti06		04Ti06	Ref.

Additional data on this isotope can be found in [02De08, 01De56, 91Gl02, 91Di03].
Abundance: 100 %.
* Normalized to 1.00 for the ground-state transition [04Ti06].
** Parameters of the first and the second T=3/2 states are given in [04Ti06].
Spectroscopic factors 0.72-1.2, 0.82-1.23 and 0.70 in the reaction (d,τ) for states at E^*=0, 2.43 and 6.66 MeV were discussed in [79Aj01, 04Ti06].
R is a scale factor which bring cross section and form factors calculated with shell-model wave functions into qualitative agreement with the data for (p,p$'$) reaction.
Data for this isotope are considered in vol. LB I/18A.

Energy levels and branching ratios [04Ti06]. Part 2 $^{9}_{4}$Be

E^* [keV]	$2J^\pi$	$T_{1/2}$ or $\Gamma_{\rm cm}$	Ref.		Branching ratios in percentage					
				$E^*_{\rm f}$:	0.0	1684	2429	2780	3049	4704
				$2J^\pi_{\rm f}$:	3^-	1^+	5^-	1^-	5^+	$\langle 3\rangle^+$
0.0	3^-	Stable	74Lu06							
1684(7)	1^+	217(10) keV	04Ti06		x					
2429.4(13)	5^-	0.8(1) keV	67Co32		x					
2780(120)	1^-	1.1(1) MeV								
3049(9)	5^+	282(11) keV	04Ti06		x					
4704(25)	$\langle 3\rangle^+$	743(55) keV								
5590(100)	$\langle 3^-\rangle$	1.3(4) MeV								
6380(60)	7^-	1.2(2) MeV	04Ti06							
6760(60)	9^+	1.3(1) MeV			x					
7940(80)	$\langle 5^-\rangle$	≈1 MeV								
11283(24)	$\langle 7^-\rangle$	575(50) keV	04Ti06							
12200	$[3^-]$									
13790(30)	$[5^-]$	590(60) keV								
14392(2)**	3^-	381(33) eV	04Ti06		x		x		x	x
14480(90)	$\langle 5^-\rangle$	800 keV	04Ti06							
15100(50)		350(180) keV								
15970(30)	$[5^-]$	≈300 keV								
16671(8)	$\langle 5^+\rangle$	41(4) keV								
16975(1)**	1^-	0.39(1) keV	04Ti06		x	x	x	x		x
17298(7)	$\langle 5\rangle^-$	200 keV								
17493(7)	$\langle 7\rangle^+$	47 keV								
18020(50)										

(continued) **$^{9}_{4}$Be**

E^* [keV]	$2J^\pi$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage E^*_f: / $2J^\pi_f$:	0.0 3^-	1684 1^+	2429 5^-	2780 1^-	3049 5^+	4704 $\langle 3\rangle^+$
18580(40)										
18650(50)	$\langle 5^-\rangle$	300(100) keV								
19200(50)		310(80) keV								
19420(50)	$[9^+]$	600(300) keV								
19900(200)										
20510(30)		600(100) keV								
20750(30)		680(90) keV								
21400(200)										
22400(200)		broad								
23800(200)										
27000(500)		broad								
			Ref.							

Energy levels and branching ratios [04Ti06, 88Aj01]. **$^{10}_{4}$Be**

E^* [keV]	J^π	T	L	$2j_n$	S_{dp}	$S_{\ell j}$ (d,p)	$2g\Gamma_n$ [keV]	$E_\circ$ [keV]	S_N (α,τ)	E_γ [keV]	σ mb	L $(\alpha$,p)	R $(\alpha$,p)	Γ_γ [meV]	L (t,^{6}Li)	S_N (t,^{6}Li)	Ref.
0.0	0^+	1	1	3	2.1	1.21			1.58	6810	4.9(5)	1	1.00*		1	0.16	76Da15
3368.03(3)	2^+	1	1	3	0.23	0.17			0.38	3443	0.9(1)	3	0.067	3.5(4)	3	4.1	74An27
				1	0.12												88Aj01
5958.39(5)	2^+	1	1		≤1.0	0.54			≤0.7	854	2.0(2)				3	3.1	89Si02
5959.9(6)	1^-	1	0						≤0.1								
6179.3(7)	0^+	1										1	0.86				04Ti06
6263.3(50)	2^-	1	0	5	0.065				0.08			2	0.53				88Aj01
				+1	0.132												88Aj01
7371(1)	3^-	1	2			0.36	30.6	622	0.26			2	0.67				04Ti06
7542(1)	2^+	1	1			0.20	8.75	812	0.34			3	0.10				04Ti06
9270	$\langle 4^-\rangle$	1						2730	≤0.2			2	0.84				80Ha33
9400	$\langle 2\rangle^+$	1						2850									76Da15
9560(20)	2^+	1										3	0.13				02Li15
10150	3^-																02Li15
10570(30)	≥1	1										0,1	0.08,0.04				04Ti06
11230(50)																	04Ti06
11760(20)	$\langle 4^+\rangle$											3	0.049				03As04
11930(100)	$\langle 5^-\rangle$																01Cu06
13050(100)																	01Cu06
13800(50)																	03As04
14680(100)																	01Cu06
15300(200)	$\langle 6^-\rangle$																04Ti06
17120(200)	$\langle 2^-\rangle$											0	0.3				04Ti06
17790												2	1.0				03Fl02

(continued) $^{10}_{4}$**Be**

E^* [keV]	J^π	T	S_{dp}	$S_{\ell j}$ (d,p)	$2g\Gamma_n$ [keV]	$E_\circ$ [keV]	S_N (α,τ)	E_γ [keV]	σ mb	L (α,p)	R (α,p)	Γ_γ [meV]	S_N (t,^{6}Li)	Ref.
18150(50)	⟨0^-⟩													04Ti06
18550	[2^-]									2	1.0			04Ti06
20800(100)														03Fl02
21216(23)	⟨2^-⟩	⟨2⟩												04Ti06
21800(100)														03Fl02
22400(100)														03Fl02
23000(100)														03Fl02
23350(50)														03Fl02
23650(50)														03Fl02
24000(100)														03Fl02
24250(50)														03Fl02
24600(100)														03Fl02
24800(100)														03Fl02
25050(100)														03Fl02
25600(100)														03Fl02
25950(50)														03Fl02
26300(100)														03Fl02
26800(100)														03Fl02
27200(200)														03Fl02
			76Da15	74An27			80Ha33	87Ly01			04Ti06	04Ti06	04Ti06	Ref.
					98Sc0A	98Sc0A			87Ly01		94Ha16		89Si02	Ref.

Additional data on this isotope can be found in [04Fy01, 04Ar01, 04Ah02, 03Fl02, 03Bo24, 03As04, 02De08, 02Li15, 01Fr02, 01Cu06, 01Wi05, 00Fo17, 97Ao04, 96So17].
* R is a cluster spectroscopic factor normalized to 1.00 for the ground-state transition [94Ha16, 04Ti06].
E_γ and σ are the energies of primary γ-transitions and cross sections of thermal neutron capture compared in [87Ly01] with the channel-capture theory [60La05, 60La0A].
Comparison of S_{dp} obtained in different measurements can be found in [76Da15].

Energy levels and branching ratios [04Ti06, 88Aj01]. Part 2 $^{10}_{4}$**Be**

E^* [keV]	J^π	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage — E^*_f: 0.0, J^π_f: 0^+	E^*_f: 3368, J^π_f: 2^+	E^*_f: 5960, J^π_f: 1^-
0.0	0^+	$151(4)\cdot10^4$ yr	76Da15			
3368.03(3)	2^+	125(12) fs	74An27	100		
			88Aj01			
5958.39(5)	2^+	<55 fs	89Si02	<9	[100]	
5959.9(6)	1^-			83(10)	17(10)	
6179.3(7)	0^+	0.8(+3-2) ps	04Ti06		76(2)	24(2)
6263.3(50)	2^-		88Aj01	1(1)	99(2)	≤1
			88Aj01			

(continued) $^{10}_{4}$Be

E^* [keV]	J^π	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage E_f^*: J_f^π:	0.0 0^+	3368 2^+	5960 1^-
7371(1)	3^-	15.7(5) keV	04Ti06				
7542(1)	2^+	6.3(8) keV	04Ti06				
9270	$\langle 4^- \rangle$	150(20) keV	80Ha33				
9400	$\langle 2 \rangle^+$	291(20) keV	76Da15				
9560(20)	2^+	141(10) keV	02Li15				
10150	3^-	296(15) keV	02Li15				
10570(30)	≥ 1		04Ti06				
11230(50)		200(80) keV	04Ti06				
11760(20)	$\langle 4^+ \rangle$	121(10) keV	03As04				
11930(100)	$\langle 5^- \rangle$	200(80) keV	01Cu06				
13050(100)		290(130) keV	01Cu06				
13800(50)		330(150) keV	03As04				
14680(100)		310(140) keV	01Cu06				
15300(200)	$\langle 6^- \rangle$	800(200) keV	04Ti06				
17120(200)	$\langle 2^- \rangle$	≈150 keV	04Ti06				
17790		112(35) keV	03Fl02				
18150(50)	$\langle 0^- \rangle$	90(30) keV	04Ti06				
18550	$[2^-]$	≈310 keV	04Ti06				
20800(100)			03Fl02				
21216(23)	$\langle 2^- \rangle$	sharp	04Ti06				
21800(100)		≈200 keV	03Fl02				
22400(100)		≈250 keV	03Fl02				
23000(100)			03Fl02				
23350(50)			03Fl02				
23650(50)			03Fl02				
24000(100)		≈150 keV	03Fl02				
24250(50)		≈200 keV	03Fl02				
24600(100)		≈150 keV	03Fl02				
24800(100)		≈100 keV	03Fl02				
25050(100)		≈150 keV	03Fl02				
25600(100)			03Fl02				
25950(50)		≈300 keV	03Fl02				
26300(100)		≈100 keV	03Fl02				
26800(100)			03Fl02				
27200(200)			03Fl02				
			Ref.				
			Ref.				

Energy levels [90Aj01]. $^{11}_{4}$Be

E^* [keV]	$2J^\pi$	$2T$	ℓ_n	S_{dp}	L (t,p)	σ (t,p) μb/sr	σ (d,^{2}He) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
0	1^+	3	0	0.73(6)	1	160(10)	17.6	13.81(8) s	93Sa09
320.0(1)	1^-		1	0.6(2)	2	590(20)	14.8	115(10) fs	90Aj01
1748	5^+			0.50	1	1570(20)		100(20) keV	93Bo03 97Mo35 79Zw01
2642	3^-						incl	200(20) keV	97Ao04 97Mo35
3398	3						incl	125(20) keV	97Ao04 04Bo12
3887(15)	3^+				≥3	130(10)		<10 keV	97Ao04 97Mo35
3956(15)	3^-				0	1080(20)	incl	15(5) keV	97Ao04 97Mo35
5240(21)	5^-					2030(40)		45(10) keV	97Ao04
5849								≈300 keV	97Mo35
6510(50)								120(50) keV	
6705(21)						1690(30)		40(20) keV	78Aj02
7030(50)								≈300 keV	
8030(50)	$\langle 1,3\rangle^-$								97Ao04
8816(32)						3030(50)		200(50) keV	78Aj02
10590								210(40) keV	
18500								≈500 keV	
				90Aj01		78Aj02	93Sa09		Ref.
				79Zw01					Ref.

Additional data on this isotope can be found in [03Bo24, 02Ho05, 02De08, 01Ca45, 00Na23, 97Mo35, 97Ao01, 93Bo03, 79Zw01, 70Go11].