

$^9\text{Be}(^7\text{Li},\alpha)$ 1975Aj03,2003So22

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, J. E. Purcell and C. G. Sheu		NP A968, 71 (2017)	1-Jan-2017

1969GI07: $^9\text{Be}(^7\text{Li},\alpha)$ E=30 MeV, measured $\sigma(E_\alpha,\theta)$. Deduced reaction mechanism. ^{12}B deduced levels.

1969Sn02: $^9\text{Be}(^7\text{Li},\alpha)$ E=5.6-6.2 MeV, measured $\sigma(E,E_\alpha,\theta)$. ^{12}B level deduced J.

1975Aj03: $^9\text{Be}(^7\text{Li},\alpha)$ E=20 MeV, measured $\sigma(E_\alpha,\theta)$. ^{12}B deduced levels, Γ .

1991Be49: $^9\text{Be}(^7\text{Li},\alpha)$ E=17 MeV, measured secondary beam production yields.

2003So22: $^9\text{Be}(^7\text{Li},2\alpha)$, E=52 MeV; measured E_α , $\alpha\alpha$ -, (Li) α -coin. ^{12}B deduced level energies, α -decay properties, possible cluster structure. Astrophysical implications discussed.

2003So29: $^9\text{Be}(^7\text{Li},\alpha)$ E=52 MeV, measured excitation energy spectra, E_α following residual nucleus decay. ^{12}B deduced levels, α -decay features.

 ^{12}B Levels

E(level) [†]	$\Gamma^\dagger$	Comments
0		
951 15		
1674 15		
2625 15		
2724 15		
3390 15		
3.77×10 ³ 2	40 keV 20	$\theta_N^2=0.46$ 6.
4305 15	<30 keV	
4534 15		
4982 15	40 keV 20	$\theta_N^2=0.08$ 3.
5.57×10 ³ 3		$\theta_N^2=0.46$ 6.
5728 15	50 keV 20	
7545 20	<30 keV	
7836 20	60 keV 40	
7937 20	<40 keV	
8.1×10 ³ ? 1	0.9 MeV 2	E(level): See discussion in (1992Bo16).
8120 20		
8.24×10 ³ 3		
8376 20	40 keV 20	
8.58×10 ³ 3		
8707 20		
9.03×10 ³ 2		
9175 20		
9.43×10 ³ 2	85 keV 30	E(level): Unresolved.
9585 20	60 keV 30	
9758 20		
9.83×10 ³ ? 3		
10.00×10 ³ 4		
10.11×10 ³ 4		
10.21×10 ³ 3	50 keV 20	
10435 20	75 keV 40	
10.58×10 ³ 2	50 keV 30	
10887 20	40 keV 20	
11.08×10 ³ ? [‡]		
11.31×10 ³ 3	130 keV 60	
11.59×10 ³ ? [‡] 2	75 keV 25	
12.33×10 ³ 3	100 keV 30	
12.77×10 ³ 5	85 keV 40	

Continued on next page (footnotes at end of table)

$^9\text{Be}(^7\text{Li},\alpha)$ [1975Aj03,2003So22](#) (continued)

^{12}B Levels (continued)

E(level) [†]	Γ [†]	Comments
13.33×10^3 [‡] 3	50 keV 20	
14.1×10^3 [‡]		E(level): Not reported in (1975Aj03).
15.5×10^3		
17.7×10^3 [‡]		E(level): Not reported in (1975Aj03).

[†] From ([1975Aj03](#)).

[‡] Observed in $^9\text{Be}(^7\text{Li}, ^{12}\text{B} \rightarrow \alpha + ^8\text{Li})(\text{2003So22})$.