

$^{10}\text{B}(^6\text{Li},^3\text{He})$

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, C. G. Sheu and J. E. Purcell		NDS 198,1 (2024)	1-Aug-2024

[1965Ca05](#): $^{10}\text{B}(^6\text{Li},^3\text{He})$ $E \approx 5$ MeV; differential cross sections were measured at 15 angles, $\theta_{\text{lab}} = 0^\circ - \approx 150^\circ$. ^{13}C states were observed. Analyzed σ vs. $(2J+1)$ dependence.

[1966Mc05](#): $^{10}\text{B}(^6\text{Li},^3\text{He})$ $E = 4.89$ MeV; measured cross section at five angles from 0-60 degrees. The first four states of ^{13}C have been observed. Analyzed σ vs. $(2J+1)$ dependence.

[1974Ho06](#): $^{10}\text{B}(^6\text{Li},^3\text{He})$ $E = 18$ MeV; measured $\sigma(E(^3\text{He}), \theta)$. Identified J, π and analog pairs of states in ^{13}C and ^{13}N . An angular distribution is also reported for $^{13}\text{C}^*(9.50)$. See also ([1972HoZN](#), [1974HoZW](#)).

 ^{13}C Levels

E(level)	J π [#]	Γ [‡]	^{13}C total cross sections (mb) [@]	Comments
0 [†]	1/2 ⁻		0.48	
3090 [†]	1/2 ⁺		0.42	
3680 [†]	3/2 ⁻			E(level): Unresolved with 3850 (1965Ca05 , 1966Mc05). ^{13}C total cross sections (mb): $\sigma = 22.2$ mb for $^{13}\text{C}^*(3680+3850)$.
3850 [†]	5/2 ⁺			E(level): Unresolved with 3680 (1965Ca05 , 1966Mc05). ^{13}C total cross sections (mb): $\sigma = 22.2$ mb for $^{13}\text{C}^*(3680+3850)$.
6860 [‡]	5/2 ⁺			E(level): Reported in (1965Ca05).
7490 [‡]	7/2 ⁺			J π : identified as a mirror analog of $^{13}\text{N}^*(7.17; J^\pi = 7/2^+)$ from (1970Aj04).
7550 [‡]	5/2 ⁻	<30 keV		
7690 [‡]	3/2 ⁺	60 keV 30		
8860 [‡]	1/2 ⁻			
9500 [‡]	(3/2 ⁻)	<30 keV		
9900 [‡]	3/2 ⁻			
10750 [‡]	7/2 ⁻			
10820 [‡]	5/2 ⁻			J π : identified as a mirror analog of $^{13}\text{N}^*(10.35; J^\pi = 5/2^-)$ from (1970Aj04).
11000 [‡]	(1/2 ⁺)			
11080 [‡]	(1/2 ⁻)			
11950 [‡]	(7/2 ⁻)			
12110 [‡]				
12440 [‡]				

[†] Reported in ([1965Ca05](#) and [1966Mc05](#): $\Delta E \approx 50$ keV).

[‡] Reported in ([1974Ho06](#)).

[#] From ([1970Aj04](#)) and comparison of mirror state pairs populated in $^{10}\text{B}(^6\text{Li},^3\text{He})$ and $(^6\text{Li}, t)$ in ([1974Ho06](#)).

[@] From ([1966Mc05](#)) based on data at five angles from $0^\circ - 60^\circ$.