

$^{10}\text{B}(^3\text{He},\text{n})$ 1974Fu11,1975Aj02

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

1966Za01: $^{10}\text{B}(^3\text{He},\text{n})$ E=2.6,3.0,4.0,5.8 MeV, measured $\sigma(E_{\text{N}},\theta)$, Q. ^{12}N deduced levels, Γ .

1968Ad03: $^{10}\text{B}(^3\text{He},\text{n})$ E=3 MeV, measured Q, $\sigma(E_{\text{N}})$. ^{12}N deduced levels.

1970Bo39: $^{10}\text{B}(^3\text{He},\text{n})$ E=6.2 MeV, E=10,11 MeV, measured $\sigma(E_{\text{N}},\theta)$. ^{12}N deduced levels, particle branching ratios.

1970Si16: $^{10}\text{B}(^3\text{He},\text{n})$ E=6.9 to 30.6 MeV, measured $\sigma(E)$.

1974Fu11: $^{10}\text{B}(^3\text{He},\text{n})$ E=10.5-13 MeV, measured $\sigma(E, E_{\text{N}}, \theta)$. ^{12}N deduced levels, L, J, π , analog states.

1988Na09: $^{10}\text{B}(^3\text{He},\text{n})$ E=3.5 MeV, measured $I(\beta)$, $I(\gamma)$, β - γ -coin. Deduced mirror asymmetry. ^{12}N deduced Gamow-Teller β -decay branching ratio.

2010Zh03: ^{12}N , measured β -NMR spectra. Deduced magnetic moments.

The authors measured the magnetic moment of ^{12}B and ^{12}N using a β -NMR technique. The ^{12}N nuclides were produced by bombarding a ^{10}B target with a beam of E=3 MeV ^3He ions.

Catcher foils of Cu (10 μm) and Pt (100 μm) were positioned at scattering angles of 32° – 48° and 12° – 28° , respectively. The β -asymmetries were measured with a pair of plastic scintillator counters. Measurements are compared with Shell Model Calculations.

 ^{12}N Levels

E(level) [†]	J ^π	Γ	L	Comments
0	1 ⁺	20 keV 20	2	$\mu=0.4571$ I (2010Zh03) J ^π : From Adopted Levels. μ : Previous value: $\mu=0.4571$ 5 (1968Su05).
960 12		16 keV 20	2	
1189 12		140 [‡] keV 25	1	
1.72×10 ³ ? 8				
2.4×10 ³				
3114 15		200 [‡] keV 36	2	
3533 15		150 [‡] keV 40	2	
4250 30		290 keV 70		E(level): May be due to unresolved states.
5320 12		180 keV 20	(0)	
7629 20		200 keV 40		
8446 17		90 keV 30		
9035 12		16 keV 20		

[†] Mainly from (1974Fu11), see comments in (1968Aj02,1975Aj02).

[‡] From weighted average of values shown in Table 12.22 of (1980Aj01).