

$^{11}\text{B(p,p):res}$ 1957De11,1977Ma37,2017Ke05

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

1957De11: $^{11}\text{B(p,p)}$ E=0.67,1.4 MeV, measured σ .
 1968Ge04: $^{11}\text{B(p,p),(p,p')}$ E=155 MeV, measured $\sigma(\theta)$, $P(\theta)$.
 1969Ka15: $^{11}\text{B(pol. p,p),(pol. p,p')}$ E=30.3 MeV, measured $\sigma(E,\theta)$, asymmetry(θ).
 1970Ho07: $^{11}\text{B(p,p),(p,p')}$ E=100 MeV, measured $\sigma(E_{p'},\theta)$. Deduced optical model parameters.
 1974De45,1975Ma49,1977Ma37: $^{11}\text{B(p,p)}$ E=1.8-3.0 MeV, measured polarization $P(E,\theta)$, $\sigma(E,\theta)$. ^{12}C deduced resonances J^π , width, configuration.
 1977Ph02: $^{11}\text{B(pol. p,p)}$ E=30 MeV, analyzed $\sigma(\theta)$, $A(\theta)$. Deduced optical model parameters.
 1977Ri01: $^{11}\text{B(p,p)}$ E $\leq$ 5.2 MeV, measured $\sigma(E,\theta)$. ^{12}C deduced resonances, J , π .
 1978Ma56: $^{11}\text{B(pol. p,p)}$ E=1.8-3.0 MeV, analyzed $\sigma(E)$, analyzing power. ^{12}C deduced resonances, J , π , widths.
 1979Al26: $^{11}\text{B(p,p)}$ E=1 GeV, measured $\sigma(\theta)$. ^{12}C deduced nuclear density parameters, quadrupole effects.
 1980Fa07: $^{11}\text{B(p,p),(p,p')}$ E=35.2 MeV, measured $\sigma(\theta)$. Deduced optical model parameters. ^{12}C level deduced β_2 .
 1985Al16: $^{11}\text{B(p,p)}$ E=1 GeV, measured $\sigma(\theta)$. Deduced model parameters, rms matter radii.
 1986Mu08: $^{11}\text{B(p,p)}$ E=10-17 MeV, measured $\sigma(\theta)$. Deduced potential parameters.
 1998Ma54: $^{11}\text{B(p,p)}$ E=1700-2700 keV, measured $\sigma(\theta=165^\circ)$. $^{11}\text{B(p,p')}$ E=2600 keV, measured $\sigma(E_p,\theta=165^\circ)$.
 2001Ch78: $^{11}\text{B(p,p)}$ E=0.5-3.3 MeV, measured $\sigma(\theta)$.
 2003Ha12: $^{11}\text{B(pol. p,p)}$ E=150 MeV, measured $\sigma(\theta)$.
 2010Ko33: $^{11}\text{B(p,p)}$ E=2.2-4.2 MeV, measured proton spectrum, E_α , I_α . Deduced yields, $\sigma(\theta)$.
 2011Am02: $^{11}\text{B(p,p)}$ E=300-1050 keV, measured proton spectrum. Deduced $\sigma(\theta)$, optical model parameters.

 ^{12}C Levels

E(level) [†]	J^π	$T_{1/2}$	Comments
$16.57 \times 10^3 \frac{1}{2}^+$		303 keV	$\Gamma_p/\Gamma=0.5$ (1957De11).
$17.24 \times 10^3 \frac{1}{2}^+$		2170 keV	$\Gamma_p/\Gamma=0.05$ (1957De11).
$17.87 \times 10^3 \frac{1}{2}^-$ 20		79 keV 20	
18360 $\frac{1}{2}^-$ 10		265 keV 20	T=(1). E(level), Γ : From (1977Ma37), who suggest two resonances at $E_p=2.62$ and 2.66 MeV (± 10 keV) with J^π ; T= 3^- ; (1) and 0^- , and $\Gamma_{\text{lab}}=290$ keV 20 and 30 keV 5. They suggest an additional $J^\pi=3^-$ resonance at $E_p=2.80$ MeV 1 with $\Gamma_{\text{lab}}=300$ keV 50. See also (1983Ne11) and discussion in $^{11}\text{B(d,n)}$.
18395 $\frac{1}{2}^+$ 10		42 keV	See also $\Gamma=27$ keV 5 (1977Ma37) and discussion in $^{11}\text{B(d,n)}$.
$18.85 \times 10^3 \frac{1}{2}^+$ #		100 keV	
19.1×10^3 #			$T_{1/2}$: Broad.
$19.49 \times 10^3 \frac{1}{2}^+$ #		366 keV	
$19.72 \times 10^3 \frac{1}{2}^+$		229 keV	
19.94×10^3 #		367 keV	
$20.24 \times 10^3 \frac{1}{2}^+$ #		303 & keV 37	
$20.61 \times 10^3 \frac{1}{2}^+$ #		321 & keV 14	
$21.50 \times 10^3 \frac{1}{2}^+$ # @		266 & keV 23	
$22.00 \times 10^3 \frac{1}{2}^+$ @		7.2 & MeV 11	
$22.47 \times 10^3 \frac{1}{2}^+$ @		660 & keV 83	
23.05×10^3	(2 ⁻)		T=1

[†] See references listed in (2017Ke05).

[‡] Resonant in p_0 .

Resonant in p_1 .

Continued on next page (footnotes at end of table)

$^{11}\text{B}(\text{p,p}):res$ [1957De11](#),[1977Ma37](#),[2017Ke05](#) (continued)

^{12}C Levels (continued)

@ Resonant in p_2 .

& Γ from R-matrix analysis; the Γ_{FWHM} for these states is 330, 320, 310, 710, and 330 keV, respectively.