

$^1\text{H}(^{10}\text{C},\text{p})$ 1996Ax01,2000Ma62,2006Ca05

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, C. G. Sheu		NP A880,88 (2012)	1-Jan-2011

1996Ax01: $^{10}\text{C}(\text{p},\text{p})$, $E_{\text{C.M.}}=0.5\text{--}2.5$ MeV; measured $\sigma(\theta)$ vs E; deduced optical model parameters. ^{11}N levels deduced spectroscopic factors.

1997GoZQ: $^{10}\text{C}(\text{p},\text{p})$, (p,p') , $E_{\text{C.M.}}=0.6\text{--}5.3$ MeV; measured excitation function, $\sigma(\theta)$. ^{11}N deduced levels J, π , Γ .

2000Ma62: $^1\text{H}(^{10}\text{C},^{10}\text{C})$, $E=9$ MeV/nucleon; measured particle spectra. ^{11}N deduced resonances J, π , widths.

2006AnZV: $^1, ^2\text{H}(^{10}\text{C},\text{P})$, $E=25.5$ MeV; measured E_{p} , $\sigma(\theta)$. ^{11}N deduced resonance energies, widths.

2006Ca05: $^1\text{H}(^{10}\text{C},\text{P})$, $E=25.5, 32$ MeV; measured recoil E_{p} , elastic $\sigma(\theta)$. ^{11}N deduced resonance parameters.

 ^{11}N Levels

E(level)	J $^{\pi}$	T $_{1/2}$	Comments
0	1/2 $^{+}$	0.83 MeV 3	E(level): from $^{11}\text{N}_{\text{g.s.}}=E_{\text{res}}=1.49$ MeV 6, see comments In the Adopted Levels data set. for $^1\text{H}(^{10}\text{C},\text{P})$ the reported ground state energy $E_{\text{res}}=1.54$ MeV 2 from (2006Ca05) lies above the adopted ground state energy $E_{\text{res}}=1.49$ MeV 6. The energies of higher excited states are deduced assuming $^{11}\text{N}_{\text{g.s.}}=E_{\text{res}}=1.49$ MeV 6. E(level): from $E_{\text{res}}=1.54$ MeV 2 (2006Ca05). See also 1.27 MeV +18–5 (2000Ma62) and $E_{\text{res}}=1.30$ MeV 4 (1996Ax01); (2000Ma62) is a reanalysis of (1996Ax01) with additional data. The two experimental results (2006Ca05) and (2000Ma62) are in poor agreement; the precision of (2006Ca05) was found to dominate any weighting. Γ : from $\Gamma=0.83$ MeV 3 (2006Ca05), also see $\Gamma=1.44$ MeV 20 (2000Ma62) and $\Gamma=0.90$ MeV +10–20 (1996Ax01).
750 80	1/2 $^{-}$	0.96 MeV 16	E(level): from $E_{\text{res}}=2.24$ MeV 5 and $^{11}\text{N}_{\text{g.s.}}=E_{\text{RES}}=1.49$ MeV 6. E(level): from weighted average of $E_{\text{res}}=2.27$ MeV 5 (2006Ca05) and 2.01 MeV +15–5 (2000Ma62); see also $E_{\text{res}}=2.04$ MeV 4 (1996Ax01). Γ : from $\Gamma=1.15$ MeV 25 (2006Ca05) and 0.84 MeV 20 (2000Ma62), also see $\Gamma=0.69$ MeV +5–10 (1996Ax01).
2260 80	5/2 $^{+}$	0.60 MeV 5	E(level): from $E_{\text{res}}=3.75$ MeV 5 (2000Ma62) and $^{11}\text{N}_{\text{g.s.}}=E_{\text{RES}}=1.49$ MeV 6; see also $E_{\text{res}}=3.72$ MeV 4 (1996Ax01). Γ : from (2000Ma62), also see $\Gamma=0.60$ MeV +10–4 (1996Ax01).
$\approx 2.45 \times 10^3 ?^{\dagger}$	(3/2 $^{+}$)	580 keV	E(level): Γ : from $E_{\text{res}} \approx 3.94$ MeV (2000Ma62) and $^{11}\text{N}_{\text{g.s.}}=E_{\text{RES}}=1.49$ MeV 6.
2840 80	(3/2 $^{-}$)	270 keV	E(level): from $E_{\text{res}}=4330$ MeV 50 (2000Ma62) and $^{11}\text{N}_{\text{g.s.}}=E_{\text{RES}}=1.49$ MeV 6; see also $E_{\text{res}}=4.32$ MeV (1996Ax01). Γ : from (2000Ma62); also see $\Gamma=70$ keV (1996Ax01). J^{π} : from (2000Ma62).
$\approx 3.32 \times 10^3 ?^{\dagger}$	(5/2 $^{+}$)	400 keV	E(level): Γ : from $E_{\text{res}} \approx 4.81$ MeV (2000Ma62) and $^{11}\text{N}_{\text{g.s.}}=E_{\text{RES}}=1.49$ MeV 6.
$\approx 3.91 \times 10^3 ?^{\dagger}$	(7/2 $^{-}$)	250 keV	E(level): Γ : from $E_{\text{res}} \approx 5.4$ MeV (2000Ma62) and $^{11}\text{N}_{\text{g.s.}}=E_{\text{RES}}=1.49$ MeV 6.

† The parameters for these three states are only suggestions which reproduce the observed cross section.