^{14}N(p,2p)

History

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

1958Ty49: ^{14}N(p,2p) E=185 MeV; measured absolute σ for the reaction versus binding energy of the removed proton.
1961Cl09: ^{14}N(p,2p) E=150 MeV; measured σ_{total}.
1965De21: ^{14}N(p,2p) E=19 MeV; measured σ(Ep,θ(1),θ(2)), pp-coin.
1966Ty01: ^{14}N(p,2p) E=460 MeV; measured σ(Ep;θ), Q.
1970We09: ^{14}N(p,2p) E=46 MeV; measured σ(Ep,θ).
1970WeZW: ^{14}N(p,2p) E=46 MeV; measured σ(Ep,θ(p)).
1986VdZY: ^{14}N(p,2p) E=50 MeV; measured σ. ^{13}C deduced resonances. Nuclear emulsion technique.

Theory:
1965Ba21: ^{14}N(p,2p); calculated the neutron width of the ^{13}C*(J^{π}=5/2$^-$) level.
1972Ch21: ^{14}N(p,2p) E=46 MeV; calculated $\sigma(\theta)$. Distorted-wave t-matrix approximation.
1974OlZR: ^{14}N(p,2p) E=46 MeV; calculated $\sigma(\theta)$.
1979Ki10: ^{14}N(p,2p); calculated σ. Particle-hole excitation model, analyzed high-lying hole states.
1979Ma20: ^{14}N(pol. p,2p); calculated $\sigma(\theta)$ for quasifree scattering; deduced structure of initial, final nuclear states.
1981Fe04: ^{14}N(pol. p, 2p) E=320 MeV; calculated effective polarization. Quasifree scattering, shell, cluster models.
1984Vd02: ^{14}N(p,2p) E=50 MeV; calculated σ(Ep1,Ep2), deduced residual level production σ. Quasielastic, two-step process model.
1986Os08: ^{14}N(p,2p) E=46,47,50 MeV; calculated σ(E1,θ1,θ2). T-matrix approximation.
1990Go34: ^{14}N(p,2p) E=46 MeV; analyzed $\sigma(\theta 1,\theta 2)$; deduced noncoplanarity role. T-matrix approach.
1990Lo18: ^{14}N(p,2p) E=46 MeV; calculated $\sigma(\theta 1,\theta 2,E1)$.

^{13}C Levels

E(level)	J^{π}[†]	Comments
0	1/2$^-$	E(level): corresponding to ejection of $p_{1/2}$ proton (1958Ty49,1966Ty01) with binding energy $E_b \approx 7$ MeV (1958Ty49), 7.5 MeV *5* (1966Ty01); also reported in (1965De21,1970We09,1986VdZY).
3100		E(level): See (1961Cl09,1986VdZY).
3680	3/2$^-$	E(level): See (1961Cl09,1966Ty01,1970We09,1986VdZY). E_b=11.5 MeV (1966Ty01).
7500	5/2$^-$	E(level): See (1970We09).
7800		E(level): corresponding to ejection of $p_{3/2}$ proton (1958Ty49,1966Ty01) with $E_b \approx 15$ MeV (1958Ty49: $E_x \approx 8$ MeV), 15.3 MeV *5* (1966Ty01).
11900	3/2$^-$	E(level): See (1970We09).
12300		E(level): corresponding to ejection of $p_{3/2}$ proton with E_b=19.8 MeV *6* (1966Ty01).

[†] From Distorted Wave T-matrix Approximation analysis of the quasi-elastic scattering reaction mechanism in (1970We09).