$^{12}C(^{15}N,^{14}O)$ 2000Ka21

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

2000Ka21: $^{12}C(^{15}N,^{14}O)$ E=240.1 MeV. Measured excitation energy spectra for θ=2.0°−5.4° using the Q3D spectrometer at HMI. Ambiguity exists in the reported angular coverage. Deduced excited states, discussed reaction mechanism and likely J^{π} values.

^{13}B Levels

E(level)†	J^{π}‡	Γ‡	Comments
0	$3/2^{-}$		dσ/dΩ(9.1°)=0.3 μb/sr *1* (2000Ka21).
3720	$(5/2^{-})$		E(level): doublet consisting of unresolved states at 3680 and 3710 keV. dσ/dΩ(9.1°)=1.8 μb/sr *2*.
4140			dσ/dΩ(9.1°)=0.7 μb/sr *1*.
5030	$(3/2^{-})$		dσ/dΩ(9.1°)=0.4 μb/sr *1*.
5380	$(7/2^{-})$		dσ/dΩ(9.1°)=3.0 μb/sr *2*.
6170		60 keV	dσ/dΩ(9.1°)=1.8 μb/sr *2*.
6430	$(9/2^{+})$	30 keV	dσ/dΩ(9.1°)=13.4 μb/sr *5*.
6920		150 keV	dσ/dΩ(9.1°)=1.2 μb/sr *2*.
7760		170 keV	E(level): This group appears as a small shoulder on the 8.12 MeV peak and may correspond to unresolved states at 7.51 and 7.86 MeV. dσ/dΩ(9.1°)=0.5 μb/sr *1*.
8120		70 keV	dσ/dΩ(9.1°)=3.4 μb/sr *2*.
8690		≤80 keV	dσ/dΩ(9.1°)=2.8 μb/sr *2*.
9440		≤80 keV	dσ/dΩ(9.1°)=1.6 μb/sr *2*.
10220	$(11/2^{-})$	170 keV	E(level): other: 10250 (1993Bo03). dσ/dΩ(9.1°)=9.2 μb/sr *4*.
11050		1.8 MeV	E(level): broad structure which may be due to several unresolved states. dσ/dΩ(9.1°)=8.0 μb/sr *4*.
13650		300 keV	dσ/dΩ(9.1°)=1.7 μb/sr *2*.
14390		400 keV	dσ/dΩ(9.1°)=1.4 μb/sr *2*.

† From (2000Ka21); ΔE≈300 keV.
‡ From analysis of $^{12}C(^{13}C,^{12}N)$,$(^{14}C,^{13}N)$ and $(^{15}N,^{14}O)$ multi-nucleon transfer reactions in (2000Ka21).