

$^{14}\text{C}(^{12}\text{C},^9\text{C})$ 2007Bo10

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, G. C. Sheu		ENSDF	01-May-2017

2004Bo23,2005Bo39,2007Bo10:

XUNDL set compiled by S. Geraedts and B. Singh (McMaster) Aug 2007.

An E(^{12}C)=231.3 MeV beam was delivered to a target with 384 $\mu\text{g}/\text{cm}^2$ ^{14}C by the isochron cyclotron at the Berlin HMI/ISL.

Reaction products were momentum analyzed using the Q3D magnetic spectrograph, which was positioned to cover $\theta=3.0-7.0^\circ$. The overall energy resolution was $\Delta E(\text{FWHM})=250$ keV. Products were identified with a gas-filled (ΔE) focal plane detector and a scintillator (E) detector and the time-of-flight through the spectrometer.

The observed levels are compared with shell-model calculations and interpreted in terms of $(\text{sd})^3$ structures.

 ^{17}C Levels

E(level) [†]	J^π	Γ	$d\sigma/d\Omega$ (nb/sr)	Comments
0?	$3/2^+$		10 5	$d\sigma/d\Omega \leq 10$ nb/sr 5. No peak was identified in the spectrum.
310 40	$5/2^+$		50 30	
2060 50	$(3/2^+, 7/2^+)$	0.25 MeV 10	45 25	
3100 20	$9/2^+$	0.10 MeV 5	300 20	
4250 20	$(5/2^+, 7/2^+, 9/2^+)$	0.14 MeV 8	140 15	
6200 30	$(5/2^+)$	0.35 MeV 15	110 15	
7470 30	$(11/2^+)$	0.58 MeV 10	293 30	
8850 50		0.66 MeV 20	220 30	
10560 30		0.30 MeV 10	130 15	
11710 50		0.30 MeV 15	72 15	
12610 30		0.45 MeV 20	110 15	
13700 50		0.6 MeV 2	160 20	
$16.3 \times 10^3? 1$		0.5 MeV 2	73 20	

[†] A systematic uncertainty of 40 keV is estimated by (2007Bo10) throughout the energy region.