

$^{14}\text{C}(^{11}\text{B},^{12}\text{N})$ 1998Be28

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

1998Be28: The $^{14}\text{C}(^{11}\text{B},^{12}\text{N})$ spectrum was measured at $E(^{11}\text{B})=190$ MeV using the JINR U-400 cyclotron and the MSP-144 spectrograph. The beam impinged on a $360\text{ }\mu\text{g}/\text{cm}^2$ 70% enriched ^{14}C target, and reaction products were measured using the spectrograph, which was positioned at $\theta_{\text{lab}}=4.6^\circ$. Two position sensitive proportional counters in the focal plane array were used along with a series of ΔE , ΔE , E and VETO detectors; the ^{13}Be ground state Q-value and several excited states were observed. See also (2001Pe27).

 ^{13}Be Levels

E(level) [‡]	E' (MeV) [†]	Comments
0.35×10^3 9	0.80 9	From $Q=-39.60$ MeV 9, $\Delta M=33.95$ MeV 9 and $S_n=-0.80$ MeV 9.
1.57×10^3 6	2.02 6	From $\Delta M=35.17$ MeV 6.
2.45×10^3 13	2.90 13	From $\Delta M=36.05$ MeV 13.
4.49×10^3 8	4.94 8	From $\Delta M=38.09$ MeV 8.
5.43×10^3 10	5.88 10	From $\Delta M=39.03$ MeV 10.
7.5×10^3 ? 2	7.9 2	From $\Delta M=41.0$ MeV 2.

[†] E' is a relative excitation energy scale with $E'=0$ at the neutron separation energy. We use this scale because most articles report level energies with respect to the $n+^{12}\text{Be}_{\text{g.s.}}$ center of mass energy.

[‡] The ground state is taken as $E_{\text{c.m.}}(n+^{12}\text{Be}_{\text{g.s.}})=0.45$ MeV *I*; see Adopted Levels.