^{9}Be(^{10}C,^{13}N) 2009Ch38

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

2009Ch38: XUNDL dataset compiled by TUNL (2009).

^{9}Be(^{10}C,^{13}N→p+3α) and ^{12}C(^{10}C,^{13}N→p+3α) at E(^{10}C)=10.7 MeV/nucleon at the Texas A&M MARS facility.

A set of four HiRA detectors covering θ=1.3° to 7.7° were used to measure resonance decay of particle-unbound ^{13}N states. The analysis identified states that p- and α-decay to ^{12}C and ^{9}B excited states.

^{13}N Levels

E(level)	J$^{\pi}$	T$_{1/2}$	Comments
10.36×10^{3} †			E(level): A doublet is identified at this energy in the Adopted Levels.
10.83×10^{3} †	(1/2^{-},1/2^{+},3/2^{-})		J$^{\pi}$: Suggested from systematics.
11.53×10^{3} †		<300 keV	
13.65×10^{3} ‡ # *1*		<300 keV	Approximate branching ratios (p+^{12}C(9.65))=48% and (α+^{9}B$_{g.s.}$)=52%.
16.6×10^{3} @ *1*		<350 keV	

† Decays to p+^{12}C(7.65).
‡ Decays to p+^{12}C(9.64).
# Decays to α+^{9}B$_{g.s.}$
@ Decays to α+^{9}B(2.345).