

$^{14}\text{N}(^3\text{He},\alpha)$

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

[1960Ta12](#): $^{14}\text{N}(^3\text{He},\alpha)$ E=5.2 MeV; measured $\sigma(\theta)$ for $\theta=10^\circ$ to 100° . Deduced Q, levels, L, peak σ . Discussed reaction mechanism.

[1962C112](#): $^{14}\text{N}(^3\text{He},\alpha)$ E=2763 MeV; measured $\sigma(\theta)$ for $\theta=90^\circ$ and 150° . Deduced levels, Γ .

[1962Se13](#): $^{14}\text{N}(^3\text{He},\alpha)$ E=29 MeV; measured $\sigma(\theta)$.

[1965Ar07](#): $^{14}\text{N}(^3\text{He},\alpha)$ E=17.4-36.6 MeV; measured σ to $\alpha_{0,1,2+3,5+6}$, and to $^{13}\text{N}^*$ (11.4 MeV).

[1967Ha20](#): $^{14}\text{N}(^3\text{He},\alpha)$ E=6-18 MeV; measured activation σ .

[1968Ar12](#): $^{14}\text{N}(^3\text{He},\alpha)$ E=19-37 MeV; measured $\sigma(E_\alpha, \theta)$. Deduced level energies, L, S.

[1968Lu03](#): $^{14}\text{N}(^3\text{He},\alpha_{0,1,2+3,4,6+7})$ E=13.9 MeV; measured $\sigma(\theta)$.

[1969Ho13](#): $^{14}\text{N}(^3\text{He},\alpha)$ E=8 MeV.

[1970Kn01](#): $^{14}\text{N}(^3\text{He},\alpha)$ E=2.5-8.5 MeV; measured $\sigma(E, E_\alpha, \theta)$ for $\theta=5^\circ$ to 155° . Deduced S.

[1971Gu22](#): $^{14}\text{N}(^3\text{He},\alpha_{0,1,2+3})$ E=3.75-10.75 MeV; measured $\sigma(E, \theta)$ for $\theta=10^\circ$ to 169° .

[1972Mo39](#): $^{14}\text{N}(^3\text{He},\alpha)$ E=3.5-7.0 MeV; measured $\sigma(\theta, E_\alpha)$ for $\theta=60^\circ$ to 150° .

[1992Ad06](#): $^{14}\text{N}(^3\text{He},\alpha)$ E=50, 60 MeV; measured $\sigma(\theta)$. Deduced optical model parameters.

[1994Te04](#): $^{14}\text{N}(^3\text{He},\alpha)$ E=1.6-2.8 MeV; measured $\sigma(E, \theta)$. Evaluated utility for depth profiling.

 ^{13}N Levels

E(level)	J^π	Γ	L	S	Comments
0 ‡	1/2 $^-$		1	0.83	S: From DWBA analysis in (1970Kn01) . E(level): Q=10.029 MeV <i>I</i> 6, $\sigma_{\text{max}}=1.07$ mb/sr (1960Ta12) .
2358 ‡ <i>10</i>					
3502 ‡ #					
3547 ‡ #					
6364 $^{\#}$					
6886 $^{\#}$		110 keV <i>15</i>			Γ : From (1962C112) . E(level): From (1962C112) .
7166 ‡ 8					E(level), Γ : From (1962C112) .
7388 ‡ 8		45 keV <i>10</i>			
8.93 $\times 10^3$ ‡					
11.65 $\times 10^3$ ‡					E(level): This state is not associated with any Adopted Level because inadequate detail for association is given in the literature.
11.88 $\times 10^3$ ‡					

‡ Reported in [\(1969Ho13\)](#).

‡ From [\(1960Ta12\)](#).

$^{\#}$ Unresolved in most studies.