^{13}C(^{3}He,α) 1974Ba42,1975Ma34

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, J. E. Purcell and C. G. Sheu	NP A968,71 (2017)	1-Jan-2017

1966Ke08: ^{13}C(^{3}He,α) E=12,15, 18 MeV, measured σ(E,θ).
1968Ar12: ^{13}C(^{3}He,$\alpha\gamma$) E=19-37 MeV, measured σ(E,θ).
1969Ta09: ^{13}C(^{3}He,$\alpha\gamma$) E=2.6-12 MeV.
1970Re09: ^{13}C(^{3}He,α) E=2.5 MeV, measures σ(E$_\alpha$,E$_\gamma$), $\alpha\alpha$-coin., ^{12}C deduced Γ_γ/Γ, Γ_α/Γ.
1971Bo26: ^{13}C(^{3}He,α) E=1.8-5.4 MeV; measured σ(E,θ).
1974Ba42: ^{13}C(^{3}He,$\alpha\gamma$) E=15 MeV; ^{12}C deduced Γ_α/Γ.
1975Ma34: ^{13}C(^{3}He,α) E=4 MeV; measured α-^{12}C coincidence, Deduced Γ_{rad}/Γ.

^{12}C Levels

E(level)	S	Comments
0		
4.4×10^3		
7.65×10^3		Γ_{rad}/Γ=(4.16 *11*)×10^{-4} (1975Ma34).
9.65×10^3	2	
10.84×10^3		
11.8×10^3		
12.7×10^3		
13.3×10^3		
14.08×10^3		E(level): Reported in the ^{13}C(^{3}He,t)^{13}N→^{12}C*(14.08 MeV)+p reaction.
15.11×10^3		Γ_α/Γ=(0.041 *9*: 1974Ba42); hence using Γ=43.6 eV *10* yields Γ_α=1.8 eV *4*. Others: Γ_α/Γ=(0.012 *7*: 1970Re09) and (0.060 *25*: see 1975Aj02). See γ branching ratios from (1972Al03) ^{10}B(^{3}He,p).
16.11×10^3		E(level): Reported in the ^{13}C(^{3}He,t)^{13}N→^{12}C*(16.11)+p reaction.

γ(^{12}C)

E$_\gamma$	E$_i$(level)	E$_f$	Comments
12.7×10^3	12.7×10^3	0	See γ branching ratios from (1972Al03) ^{10}B(^{3}He,p).
15.11×10^3	15.11×10^3	0	

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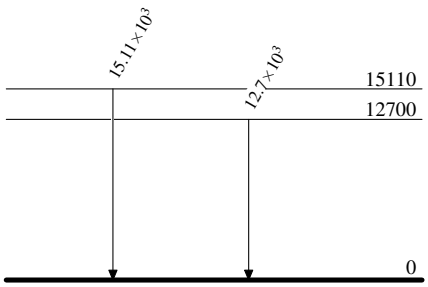
Level Scheme



$^{12}_{6}C_{6}$