$^{13}C(\alpha,\gamma)$ 1983Ra29

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. G. Sheu, J. H. Kelley, J. Purcell	ENSDF	5-Aug-2021

1974Be32: $^{13}C(\alpha,\gamma)$, E=5.12-5.35 MeV; measured σ(E,E_γ,θ). ^{17}O deduced resonance.
1983Ra29: $^{13}C(\alpha,\gamma)$, E=3.63-3.68, 6.16-6.19 MeV; measured σ(E), E_γ, I_γ. ^{17}O levels deduced ($\Gamma_\alpha\Gamma_\gamma/\Gamma$), B(E1).
2009Ma70: $^{13}C(\alpha,\gamma)$, E=2.000, 2.270 MeV; measured E_γ, I_γ, $\gamma(\theta)$, σ, and $\sigma(\theta)$; deduced astrophysical S factors.

^{17}O Levels

E(level)	J^π	Comments
871	$1/2^+$	
9154	$1/2^-$	E(level): from E_α=3655 keV (1983Ra29). J^π: from (1983Ra29).
10419 *3*		E(level): from E_α=5310 keV *4* (1974Be32).
11077	$1/2^-$	E(level): from E_α=6170 keV (1983Ra29). J^π: from (1983Ra29).

$\gamma(^{17}O)$

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	Comments
8283	9154	$1/2^-$	871	$1/2^+$	E1	(1983Ra29) measured $\Gamma_\alpha\Gamma_{\gamma1}/\Gamma_{total}$=0.65 eV *7*. Using $\Gamma_\alpha/\Gamma_{total}$=0.45 from (1968Ke02) they deduced $\Gamma_{\gamma1}$=1.44 eV *26* which corresponds to B(E1)=(2.4±0.5)×10^{-3} e^2fm^2 (1983Ra29).
10206	11077	$1/2^-$	871	$1/2^+$	E1	(1983Ra29) measured $\Gamma_\alpha\Gamma_{\gamma1}/\Gamma_{total}$=1.46 eV *13*. Using $\Gamma_{\alpha0}$=0.3 keV from (1973Ad02) and Γ_{total}=2.4 keV *3* from (1981Hi01) they deduced $\Gamma_{\gamma1}$=11.6 eV *18*; but this differs from the present analysis. See discussion in Adopted Levels.

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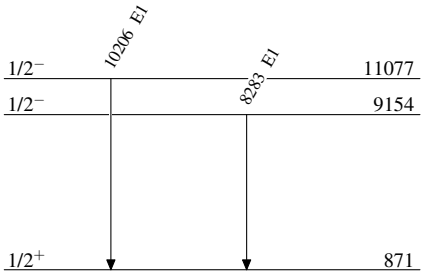
Level Scheme



$^{17}_{8}O_{9}$