^{7}Li(^{3}He,α),^{7}Li(^{3}He,dα) 2002Ti10,1971Co22

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Hu, Tilley, Kelley et al.	NP A708, 3 (2002)	23-Aug-2001

1965Fo07: ^{7}Li(^{3}He,α) E=1.3-5.5 MeV, measured σ(E,E$_{\alpha}$,θ).
1968Co07: ^{7}Li(^{3}He,α) E=0.9-12 MeV, measured σ(E$_{\alpha}$,θ), ^{6}Li deduced levels, Γ.
1969Li06: ^{7}Li(^{3}He,α) E=1-12 MeV, measured σ(E,θ), deduced reaction mechanism. ^{6}Li deduced levels, J, π, Γ, T.
1969Or01: ^{7}Li(^{3}He,α) E=2.0-4.2 MeV, measured σ(E,θ), deduced cluster reduced widths. PWBA with exchange analysis.
1970Or03: ^{7}Li(^{3}He,α) E=6.0, 7.5 MeV, 5-8 MeV, measured σ(E, θ). ^{6}Li deduced cluster structure.
1971Ar37: ^{7}Li(^{3}He,α) E=32, 16 MeV, measured σ(E(α_1), E(α_2)). ^{6}Li levels deduced Γ, J, π.
1971Co22: ^{7}Li(^{3}He,α) E=1.2 MeV, measured αd-, αALPHA-coin. ^{6}Li deduced branching ratios, partial width Γ_{d}.
1971Za07: ^{7}Li(^{3}He,α) E(^{3}He)=16-18 MeV, measured σ(E,θ), compared with zero-range, finite-range DWBA.
1972Ka08: ^{7}Li(^{3}He,α) E=1.5 MeV, measured σ(E$_{\alpha}$,E(^{6}Li),$\theta(\alpha)$,$\theta(^{6}$Li)). ^{7}Li(^{3}He,α) complete kinematics E=1.5 MeV, ^{6}Li deduced levels, decay modes, isospins.
1973Ar05: ^{7}Li(^{3}He,α) measured (particle)(particle)-coin. ^{6}Li levels deduced decay modes.
1973Br20: ^{7}Li(^{3}He,α),(^{3}He,αd) E=1.45 MeV, measured αd-coin. ^{6}Li levels deduced d-branching, isospin mixing.
1975Sc31: ^{7}Li(^{3}He,αd) E=1.8 MeV, measured αd-coin. ^{6}Li deduced levels, γ.
1976Da24: ^{7}Li(^{3}He,αd) E=4.7 MeV, measured αd(θ), σ.
1981An24: ^{7}Li(^{3}He,α) E=42.9 MeV, measured σ(E$_{\alpha}$,θ), deduced target breakup incident channel dependence.
1981Ba38: ^{7}Li(pol ^{3}He, α) E=33.3 MeV, measured $\sigma(\theta)$, A(θ). ^{6}Li levels deduced S. DWBA, coupled-channels analysis.
1983Ar05: ^{7}Li(^{3}He,αd) E=2.5 MeV, measured $\sigma(\theta_d,\theta_\alpha)$ vs arc length. ^{6}Li levels deduced Γ.
1985Da29: ^{7}Li(^{3}He,2α) E=5 MeV measured αALPHA-, αd-coin, $\sigma(\theta_1,\theta_2)$, deduced reaction mechanism, channel competition.
1985Fr01: ^{7}Li(^{3}He,αd) E=120 MeV, measured σ(E$_1$,E$_2$,θ_1,θ_2), deduced residual missing spectra.
1988Ar20: ^{7}Li(^{3}He,αd) E=11.5 MeV, measured $\sigma(\theta_d,\theta_\alpha)$ vs arc length. ^{6}Li levels deduced γ.
1991Ar19: ^{7}Li(^{3}He,αd) E=5 MeV, measured $\sigma(\theta_d,\theta_\alpha)$ vs arc length. ^{6}Li levels deduced spectroscopic parameters.
1995Ar14: ^{7}Li(^{3}He,αd) E=4.5, 6 MeV, measured αd-coin. ^{6}Li level deduced Γ.

^{6}Li Levels

E(level)	J$^{\pi}$	T$_{1/2}$	Comments
0			
2.17×10^{3} *2*			
3.55×10^{3} *2*			
4.30×10^{3} *9*		1.05 MeV *7*	E(level): average of 4.3 MeV *1* and 4.3 MeV *2* (2002Ti10) table 6.12. Γ: average of 1.6 MeV *3*, 1.60 MeV *12* and 0.6 MeV *1* from (2002Ti10) table 6.12.
5.34×10^{3} *2*	2^{+}	560 keV *40*	T=1; Γ_p/Γ=0.35 *10* No evidence for d decay, $\Gamma_d/\Gamma < 0.02$. Γ_{P+N}/Γ = 0.65 *10*.
5.65×10^{3} *20*		1.65 MeV *3*	
28.5×10^{3}			
32.9×10^{3}			