^{7}Li(p,γ) 2004Ti06

History

Type	Author	Citation	Literature Cutoff Date
Update	J. H. Kelley, J. L. Godwin, C. G. Sheu	ENSDF	31-Mar-2004

1964Mi10: ^{7}Li(p,γ) E_p=0.50-2.0 MeV, measured α-, γ-spectra.
1964Pr04: ^{7}Li(p,γ) E_p=0.4-1.8 MeV, measured α-, γ-spectrum, α-γ-coin. ^{8}Be deduced levels.
1964Sc19: ^{7}Li(p,γ) E_p=0.2-1.7 MeV, measured p, $\gamma(\theta$,E). ^{8}Be deduced levels, J, π.
1969Sw01: ^{7}Li(p,γ) E=0.44-2.45 MeV, measured σ(E,θ). ^{8}Be deduced resonances, levels, Γ-level, γ-branching.
1969Sw02: ^{7}Li(p,γ) E=0.44, 1.50 MeV, measured $\sigma(E,E_\gamma,E_\alpha,\theta(\alpha$-$\gamma))$. ^{8}Be transition deduced γ-mixing.
1976Fi05: ^{7}Li(p,γ) E=0.8-17.6 MeV, measured $\sigma(E,E_\gamma,\theta)$. ^{8}Be deduced giant resonances, Γ_γ.
1977Ul02: ^{7}Li(pol. p,γ) E=380-960 keV, measured A(E,θ). ^{8}Be deduced level, Γ, J, π.
1981Ma33: ^{7}Li(p,γ) E=11.5-30 MeV, measured E_γ, I_γ. Deduced σ(E,θ). ^{7}Li(p,γ) E=4-30 MeV, measured σ(E). ^{8}Be deduced possible GDR.
1983Fi13: ^{7}Li(p,γ) E=400-550 keV, measured yield vs. E.
1984Se16: ^{7}Li(pol. p,γ) E=14 MeV. Analyzed $\sigma(\theta)$, analyzing power data. Deduced j-dependence of polarization effects.
1989BrZO: ^{7}Li(p,γ) E not given, measured 2α-γ-coin. Deduced ^{8}Be level excitation σ.
1990Ri06: ^{7}Li(p,γ) E=7.5, 8 MeV, measured E_γ, spectral shape at θ_γ=90°. ^{8}Be level deduced intrinsic line shape.
1991Br11: ^{7}Li(p,γ) E=25 MeV, measured σ(E,θ), γ(particle)-coin. Deduced reaction mechanism, σ upper limit.
1992Ce02: ^{7}Li(p,γ) E=40-180 keV, measured capture E_γ, I_γ, $\gamma(\theta)$. Deduced astrophysical S-factor. ^{8}Be levels deduced γ-ray to charged particle branching ratio.
1994Ch23: ^{7}Li(pol. p,γ) E$\leq$80 keV, measured $\sigma(\theta)$, analyzing power vs. θ. Deduced implications for astrophysical S-factor.
1994Ro16: ^{7}Li(p,γ) E$\leq$1.5 MeV. Analyzed astrophysical S-factor. Deduced resonance tail role.
1995Bb21: ^{7}Li(pol. p,γ) E$\approx$70 keV. Analyzed $\sigma(\theta)$, analyzing power. Deduced no evidence for large p-wave strength.
1995Za03: ^{7}Li(p,γ) E=100-1500 keV, measured E_γ, $I_\gamma(\theta)$ ratios. Deduced σ(E), astrophysical S-factor vs. E, capture mechanism. ^{8}Be deduced resonance energy, Γ.
1996Go01,1997Go13: ^{7}Li(pol. p,γ) E=0-80 keV, measured α-γ-coin, $A_y(\theta)$, $\sigma(\theta)/A_0$. Deduced p-wave strength, astrophysical implications.
1996Ha06: ^{7}Li(p,γ) E=80-450 keV, measured $I_\gamma(\theta)$, relative yields. Deduced Legendre coefficients.
1997Ba04: ^{7}Li(p,γ) E=low. Analyzed p-wave strength in σ. Deduced projectile penetration factors dependence.
2000Sp01: ^{7}Li(pol. p,γ) E=40-100 keV, measured yields, analyzing power. Deduced slope of astrophysical S-factor, role of subthreshold resonance.

^{8}Be Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0			
3.03×10^3			
16.626×10^3			
16.922×10^3			
17640.0 *10*	1$^+$	10.7 keV *4*	=1. Γ: From Γ_{lab}=12.2 keV *5*.
18150 *5*	1$^+$	147 keV	=1.
18.91×10^3	(2$^-$)	131 keV *44*	
19.07×10^3 *2*	(1,2,3)$^-$	271 keV *17*	
20.×10^3?			
21.5×10^3			
21.6×10^3	1$^-$	≈4.5 MeV	T=1 =0.
22.5×10^3			
23.8×10^3	(1$^-$,2$^-$)	≈7. MeV	T=1 =(0).
27.×10^3?			
28.6×10^3			Γ=broad.

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γ(^{8}Be)

Eγ values are from recoil-corrected E(level) differences.

E_γ	E_i(level)	J^π_i	E_f
718	17640.0	1^+	16.922×10^3
1014	17640.0	1^+	16.626×10^3
1228	18150	1^+	16.922×10^3
1524	18150	1^+	16.626×10^3
1988	18.91×10^3	(2^-)	16.922×10^3
2284	18.91×10^3	(2^-)	16.626×10^3
14596	17640.0	1^+	3.03×10^3
15105	18150	1^+	3.03×10^3
16013	19.07×10^3	$(1,2,3)^-$	3.03×10^3
17619	17640.0	1^+	0.0
18128	18150	1^+	0.0

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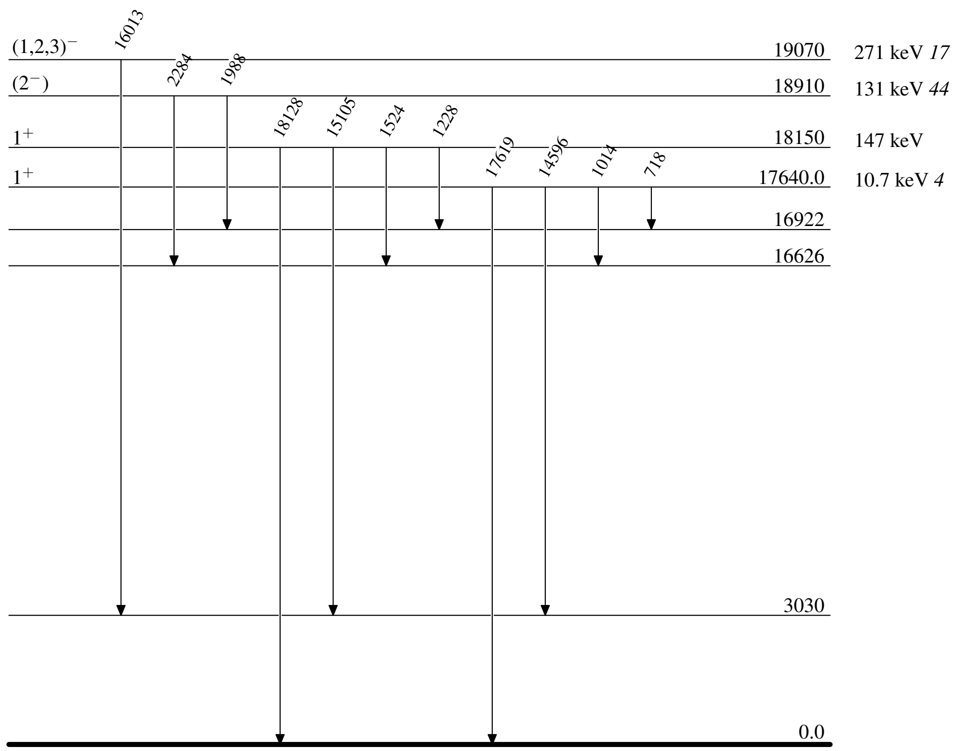
Level Scheme



$^{8}_{4}Be_{4}$