^{127}I(γ,γ′) 1991Mo17,1972Al16

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. Hashizume	NDS 112, 1647 (2011)	1-Oct-2009

1991Mo17 Elastic and Raman scattering (E=11.4 MeV), measured $\sigma(\theta)$.
1972Al16 resonance fluorescence, deduced Γ.
1969La08 E=375 keV γ from ^{127}Xe gas source, deduced Γ, life-time.
1966Fr08 E=202.8 keV γ from ^{127}Xe gas source, deduced Γ, lifetime.
1965La01 E=418 keV γ from ^{127}Te source on a rotor, linear pol: deduced Γ, lifetime, δ.

^{127}I Levels

E(level)[†][d]	Jπ[‡]	$T_{1/2}$[c]	S[b]	Comments
0.0[@]	5/2+	stable		
57.6[a]	7/2+			
202.8[@]	3/2+	0.36 ns *5*		$T_{1/2}$: from Γ=1.17×10^{-6} eV *18* (1966Fr08) and adopted branching.
374.9[@]	1/2+	15 ps *3*		$T_{1/2}$: from Γ_0^2/Γ=4.1×10^{-5} eV *7* (1969La08) and Γ_0/Γ=0.37 *1*.
418.0[@]	5/2+	3.2 ps *3*		$T_{1/2}$: from Γ_0^2/Γ=9.9×10^{-5} eV *4* and gΓ_0=1.13×10^{-4} eV *6* (1965La01), and Γ_0/Γ=0.85 *3* from adopted branching.
618.4[@] *15*	3/2+	<2.1 ps	0.00019 *6*	
628.6[@] *15*	7/2+	<3.1 ps	0.00022 *5*	
651.0[a]	9/2(+)			
745.5[@] *15*	9/2(+)	<3.5 ps	0.00017 *5*	
989.0[&] *15*	3/2+,5/2+		0.00011 *5*	
1042[&] *1*	7/2+	<0.63 ps	0.00052 *10*	
1093.8[&] *10*	3/2+,5/2+		0.00140 *24*	
1228[&] *2*			0.00177 *44*	
1274.6[&]	(7/2)+		<0.000063	
1401.0[&] *15*	3/2+,5/2+		0.00054 *12*	
1413.0[&] *15*	(9/2+)	<0.64 ps	0.00042 *9*	
1556[&] *2*			0.0010 *2*	
1658[&] *3*			0.00111 *26*	
1868[&] *2*	3/2+,5/2+		0.0043 *9*	
1890[&] *2*	3/2+,5/2+		0.00068 *28*	
1909[#] *3*	5/2+,7/2,9/2+			
2237[#] *3*				
2264[#] *3*				
2314[#] *3*				
2355[#] *3*				
2399[#] *3*				

[†] Energy values are from Eγ′s measured by 1972Al16, unless otherwise noted.
[‡] From Adopted Levels.
[#] Placed from energy fit to the Adopted Levels (evaluator).
[@] Reported by 1972Al16 and by 1991Mo17.
[&] Reported only by 1972Al16.
[a] Reported only by 1991Mo17.
[b] Values given are g$w\Gamma_0^2/\Gamma$ in eV, where Γ_0 is partial Γ for decay to g.s., g=(2J+1)/(2J(g.s.)+1) and w=angular correlation

Continued on next page (footnotes at end of table)

^{127}I(γ,γ') 1991Mo17,1972Al16 (continued)

^{127}I Levels (continued)

correction factor; Γ_1 is partial Γ for decay to 57.6-keV level.

[c] From $gw\Gamma_0^2/\Gamma$ and Γ_0/Γ, unless otherwise noted. Higher than the 618.4 keV level, as the angular correlation correction factors w are assumed 1, the T′s show the upper limits (evaluator).

[d] Transitions not placed on level scheme are as follows: 1935 *3*, 2370 *3*, 2378 *3* (1972Al16).