

²⁰⁸Pb(d,³He),(pol d,³He) 1992Gr19,1984La26

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev, S. Lalkovski		NDS 112, 707 (2011)	1-Aug-2010

1992Gr19: Facility: IUCF; Beam: E(pol d)=80 MeV, FWHM=55 keV; Target: 1.38 mg/cm² enriched to 99% in ²⁰⁸Pb; Detectors: K600 magnetic spectrograph, scattering chamber, two multiwire drift chambers, scintillator detector; Measured: TOF, σ(θ), A_y; Deduced: energy levels, J^π;
1984La26: Facility: Orsay synchro-cyclotron; Beam: E(d)=108.4 MeV; Targets: 5.8 and 10 mg/cm² enriched to 97.8% in ²⁰⁸Pb; FWHM=150, 250 keV; Measured: σ(θ), E; Deduced: level energies, J^π.
 Others: [1987Gr21](#), [1985Gr16](#), [1970Ro24](#), [1969Pa04](#).

Summary of spectroscopic factors, C²S

	g. s. s1/2	350 d3/2	1340 h11/2	1670 d5/2	3470 g7/2
1969Pa04	2.1	3.8	11.3	5.1	1.6
1970Ro24	1.9	3.4	12.1	4.2	1.6
1984La26	(1.8)	3.8	7.7	3.5	3.5
1992Gr19	1.70	3.58	10.55	3.75	2.17

²⁰⁷Tl Levels

E(level) [†]	J ^π [‡]	L#	C ² S [@]	Comments
0	1/2 ⁺	0	1.70	configuration: π(3s _{1/2}) ⁻¹ (1992Gr19).
351	3/2 ⁺	2	3.58	configuration: π(2d _{3/2}) ⁻¹ (1992Gr19).
1348	11/2 ⁻	5	10.55	configuration: π(1h _{11/2}) ⁻¹ (1992Gr19).
1683	5/2 ⁺	2	3.75	configuration: π(2d _{5/2}) ⁻¹ (1992Gr19).
2675 5	(5/2 ⁺)	(2)	0.03	configuration: π(2d _{5/2}) ⁻¹ (1992Gr19).
2994 5	(7/2,9/2) ⁺	4		E(level): Also: 3050 keV in 1984La26 . L: From DWBA in 1984La26 .
3210 5				
3469	7/2 ⁺	4	2.17	configuration: π(1g _{7/2}) ⁻¹ (1992Gr19).
3987 5	(7/2,9/2) ⁺	4	0.69	J ^π : Authors favor 7/2 assignment.
4103 5				
4289 5	(5/2 ⁺)	(2)	≤0.12	L,C ² S: 1992Gr19 searched for a possible L=0 contribution to this peak, corresponding to the L=0 peak in (t,p) at 4337 20. An upper limit for C ² S of 0.03 was estimated.
4440 15	(7/2,9/2,11/2)	(4,5)	0.35	C ² S: For g _{7/2} . Also:0.34 for h _{11/2} (1992Gr19). configuration: π(h _{11/2}) ⁻¹ or π(g _{7/2}) ⁻¹ (1992Gr19).
4570 15	(3/2 ⁺ ,5/2 ⁺)	(2)	≤0.23	L,C ² S: 1992Gr19 searched for a possible L=0 contribution to this peak, corresponding to the L=0 peak in (t,p) at 4521 20. An upper limit of 0.01 was estimated. 1984La26 report L=2+5 for a peak at 4550. configuration: π(d _{5/2}) ⁻¹ (1992Gr19).
4700 15	5/2 ⁺	2	0.16	configuration: π(d _{5/2}) ⁻¹ (1992Gr19).
4900 15	7/2 ⁺	4	1.26	L: 1984La26 report L=4+2 for a peak at 4950. configuration: π(g _{7/2}) ⁻¹ (1992Gr19).
4990 15	(7/2 ⁺ ,9/2 ⁺)	(4)	0.87	configuration: π(g _{7/2}) ⁻¹ (1992Gr19).
5040 15	(5/2 ⁺)		0.08	J ^π : L value not uniquely established, but analyzing power is consistent with π(2d _{5/2}) ⁻¹ .
5800?&	(7/2 ⁺ ,9/2 ⁺)	4		
6200?&				
7400?&		2+5		

Continued on next page (footnotes at end of table)

 $^{208}\text{Pb}(\text{d}, ^3\text{He}), (\text{pol d}, ^3\text{He})$ [1992Gr19](#), [1984La26](#) (continued) ^{207}Tl Levels (continued)

<u>E(level)[†]</u>	<u>J^π[‡]</u>	<u>L[#]</u>
7750?&		4+1
8050?&	(7/2 ⁺ , 9/2 ⁺)	4

[†] From [1992Gr19](#), unless otherwise noted.

[‡] Based on measured L-value and C²S in [1992Gr19](#).

[#] Based on DWBA analysis in [1992Gr19](#), unless otherwise noted.

[@] From [1992Gr19](#); See table above for data from other authors for the known single-particle states. [1992Gr19](#) report a limit of 5% relative to the ground state for any excited state L=0 strength below 5 MeV.

[&] weak lines in [1984La26](#), not confirmed in [1992Gr19](#).