

$^{207}\text{Pb}(\text{p},\text{p}'\gamma)$ IAR 1981Di08

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

1981Di08: Facility: Univ. of Washington Tandem; Beam: 16.2-17.8 MeV; Target: rotating, 0.5-1 mg/cm² enriched in ^{207}Pb ; Detectors: Si(Li), Na(I) with active anti-Compton shield; Measured: E(p), I(p), p γ -coin., FWHM=35 keV for protons.

 ^{207}Pb Levels

E(level) [†]	J π [#]	Comments
0	1/2 ⁻	
570 [‡]	5/2 ⁻	
898 [‡]	3/2 ⁻	
4100 [‡]	3/2 ⁻	
4140 [‡]	(5/2) ⁻	
4390	5/2 ⁺	J π : Strongly enhanced on d5/2 analog resonance. γ branching: decays mainly to the 898 keV level, but level seen in p- γ coincidence with a γ to the ground state.
4630	1/2 ⁺	J π : Strongly enhanced on s1/2 analog resonance. γ branching: I γ (g.s.):I γ (570):I γ (898)=86% 9: $\leq$ 3% 6:11% 4. From the adopted J π values, the transition to the 570 keV level is expected to be M2.
4870		
4980		
5220	3/2 ⁺	J π : Strongly enhanced on d3/2 analog resonance.
5500		
5600		
5700		
5900		Strongly enhanced on d3/2 resonance, but probably contains many levels.
6150	(1/2 ⁺ , 3/2 ⁺)	J π : Enhanced on s1/2 resonance. Probable configuration\$(\text{N},4\text{s}_{1/2})(\text{N},3\text{p}_{3/2},-1)(\text{N},3\text{p}_{1/2},-1)\$).

[†] From **1981Di08**, unless otherwise noted. Above 6150 keV, no clearly defined peaks are seen, but a very broad distribution of d3/2 strength extends between roughly 6500 keV and 7000 keV.

[‡] Rounded-off value from Adopted Levels. The 4103 keV and 4140 keV levels were only partially resolved.

[#] From Adopted Levels. J π arguments based on data from this experiment are given in comments.