

²⁰⁶Pb(d,p) 1970Mo21,1970JoZS

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

1970Mo21: Facility: Univ. of Pittsburg Van de Graaff; Beam: E(d)=17 MeV; Target: enriched to 97.39% in ²⁰⁶Pb, 30 μg/cm² carbon backing; Detectors: Enge split-pole spectrograph, photographic emulsions, NaI(Tl) detectors, FWHM=8-18 keV Measured: E, dσ/dΩ; Deduced: level energies, DWBA.

1970JoZS: E=18.7 MeV.

Others:

1967Da17: E=8.0, 18.7 MeV, FWHM=0.08%; 1994Ma18.

²⁰⁷Pb Levels

E(level) [†]	J ^π [‡]	L [@]	S ^{&}	Comments
0	1/2 ⁻ #	1	0.60	
571 3	5/2 ⁻ #	3	0.12	
896 3	3/2 ⁻ #	1	0.069	
1633 ^b 7	13/2 ⁺ #	(6)	≈0.015	
2340	7/2 ⁻ #	(3)	≈0.016	E(level): 2337 keV 7 in 1970JoZS and 2339 keV in 1970Mo21.
2563 ^a 7				
2625 1			≈0.006	S: if configuration=d5/2.
2663 ^b 1			≈0.031	S: if configuration=g7/2.
2729 2	7/2 ⁺ ,9/2 ⁺	4	0.97	
2840 ^a 7				
3205 ^b 4				
3226 4				
3303 4				
3385 4				
3419 ^b 5			≈0.02	S: if configuration=1h9/2.
3427 4				
3478 5		1,4		E(level): from 1970Mo21; 3460 keV 7 in 1970JoZS.
3511 5	11/2 ⁺ ,13/2 ⁺	6 ^c	0.48	E(level): from 1970Mo21; 3493 7 1970JoZS.
3621 ^b 5				
3633 4	3/2 ⁺ ,5/2 ⁺	2	0.14	
3675 ^b 6				
3724 5	3/2 ⁺ ,5/2,7/2 ⁻	2,3		
3901 ^b 6				
3999 5	3/2 ⁺ ,5/2,7/2 ⁻	2,3		
4066 ^a 10				
4115 6	13/2 ⁻ ,15/2 ⁻	7 ^c	1.45	
4201 14				E(level): 4190 keV 8 in 1970Mo21 and 4218 keV 10 in 1970JoZS could be different levels.
4319 8	3/2 ⁺ ,5/2 ⁺	2	0.19	
4353 ^a 10				
4389 7	3/2 ⁺ ,5/2 ⁺	2	0.77	
4460 ^b 9				
4514 7	3/2 ⁺ ,5/2 ⁺	2	0.075	
4540 7	1/2 ⁺	0	0.085	
4582 7	(5/2 ⁺)	2,3	0.023	S: if configuration=d5/2.
4614 ^b 9				
4629 7	1/2 ⁺	0	1.09	
4653 12				
4721 ^b 10				

Continued on next page (footnotes at end of table)

$^{206}\text{Pb}(\text{d,p})$ [1970Mo21](#), [1970JoZS](#) (continued) ^{207}Pb Levels (continued)

E(level) [†]	J ^π [‡]	L [@]	S ^{&}	Comments
4786 ^b 10				
4800 ^b 10				
4838 10	3/2 ⁺ , 5/2 ⁺	2 ^c		E(level): Tentative (4847 keV 10) level in 1970Mo21 .
4874 8	3/2 ⁺ , 5/2 ⁺	2 ^c		
4965 10				E(level): Tentative (4958 keV 10) level in 1970Mo21 .
4983 8	1/2 ⁺	0	0.095	J ^π : however 3/2 ⁺ and 5/2 ⁺ can not be excluded. L: L=2 in 1970JoZS .
5058 8		2,3,4		
5073 ^b 11				
5079 8		2,3,4		
5130 8	7/2 ⁺ , 9/2 ⁺	4	0.18	L: 2 in 1970Mo21 . S: if configuration=g7/2.
5179 8	3/2 ⁺ , 5/2 ⁺	2	0.25	L: probable 0+4 doublet in 1970JoZS .
5206 ^b 12				
5215 8	3/2 ⁺ , 5/2 ⁺	2 ^c	0.53	
5285 14				E(level): 5298 keV 10 in 1970JoZS , 5269 12 in 1970Mo21 .
5319 8		(2,4)		
5358 ^b 12				
5371 ^b 12				
5424 8		(2,4)		
5494 ^b 13				
5504 ^b 13				
5576 ^b 13				
5619 ^b 13				
5693 ^b 13		(2,4)		

[†] Weighted average of values of [1970JoZS](#) and [1970Mo21](#), unless otherwise noted. Quoted uncertainties in [1970Mo21](#) are 0.4%. The 2340 keV level was held fixed, and uncertainties above this level are relative to that value. [1970Mo21](#) adopted E=2339 keV and the evaluators have accordingly increased all the authors' excitation energies by 1 keV. Levels reported only by [1970JoZS](#), and not confirmed in other reactions, are not adopted. The spectrum of [1970JoZS](#) is shown in [1967Da17](#).

[‡] Based on the deduced L value, unless otherwise stated.

From Adopted Levels.

@ Based on DWBA in [1970Mo21](#), unless otherwise noted.

& From [1970Mo21](#). $S=(1/(2J+1))(d\sigma/d\Omega / d\sigma/d\Omega_{\text{DWBA}})/N$, $N=1.5$.

^a Reported only by [1970JoZS](#).

^b Reported only by [1970Mo21](#).

^c From [1970JoZS](#).