

$^{206}\text{Pb}(\text{n},\text{n}'\gamma)$ [1982DiZT,1983Di07,2015Ne11](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 201,346 (2025)	21-Jan-2025

[1982DiZT,1983Di07](#): E(n)=4.8 MeV, including data with E(n) up to 8 MeV, from the ORELA facility at ORNL. Detectors: Ge(Li). Measured: E γ , I γ .

[2015Ne11](#): E(n) up to 18 MeV from IRMM facility at Geel. Enriched ^{206}Pb target. Detectors: HPGe. Measured: E γ , I γ , excitation functions. Deduced: total inelastic and level cross sections.

Other (n,n' γ) studies: [1960De10](#), [1961Bo21](#), [1961Li04](#), [1962Do12](#), [1964Ne07](#), [1968NeZZ](#), [1970Jo28](#), [1971Fr05](#), [1990Be56](#), [1995An36](#), [2000Zh02](#).

 ^{206}Pb Levels

E(level) [†]	J $\pi^{\ddagger}$	T _{1/2}	Comments
0.0	0 ⁺		
803.1 6	2 ⁺		
1340.3 7	3 ⁺		
1466.6 6	2 ⁺		
1683.8 8	4 ⁺		
1704.3 6	1 ⁺		
1784.2 8	2 ⁺		
1997.4 8	4 ⁺		
2148.5 8	2 ⁺		
2196.3 8	(3) ⁺		
2200.3 8	7 ⁻	125 μs 19	T _{1/2} : From $\gamma(t)$ in 1995An36 . Others: 126 μs 6 (1966MoZZ) and 119 μs 3 (1973DaZL).
2235.7 12			
2313.8	0 ⁺		
2384.0 11	6 ⁻		
2391.3 6			E(level): Observed only in 2015Ne11 .
2423.2 6	2 ⁺		
2647.5 13	3 ⁻		
2658.5	9 ⁻		
2782.0 10	5 ⁻		
2826.2 12	(4) ⁻		
2864.5 8	7 ⁻		
2928.5 13	4 ⁺		
2939.7 11	6 ⁻		
3016.2 11	5 ⁻		
3120.9 14	(3 ⁺)		
3195.1 20	(1,2)		
3224.9 14	(6,7) ⁻		
3243.9 8	4 ⁻		
3259.8 12	6 ⁺		
3279.0 10	5 ⁻		
3402.5 10	5 ⁻		
3453.5 15	4 ⁺		
3484.3 13			
3516 3	(4 ⁺)		
3562.4 11	5 ⁻		
3606	2 ⁺		
3683			
3744.3 17	1		
3775.7 12	5 ⁻		
3780			
3944			
3963 3	4 ⁺		
3971 3			

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$^{206}\text{Pb}(\text{n},\text{n}'\gamma)$ **1982DiZT,1983Di07,2015Ne11 (continued)** ^{206}Pb Levels (continued)

E(level) [†]	J ^π [‡]	E(level) [†]	J ^π [‡]	E(level) [†]	J ^π [‡]	E(level) [†]	J ^π [‡]
3989 3		4420 4		4795 3	5 ⁻	5513	
3997 3		4427		4848 4		5522	1
4005	(4 ⁺)	4434.1 20		4914	(3 ⁻)	5580 4	1 ⁻
4010 3		4459 3	(5 ⁻)	4966	(3 ⁻)	5602 4	(2 ⁺)
4035 3		4469.3 19		4972	1 ⁻	5618 4	1 ⁻
4045 3		4483.0 19		5042	1 ⁻	5741 4	
4051 3		4512 3		5089 3	3 ⁺	5775	(1 ⁻)
4066 3	(5 ⁻)	4525 3		5180 4		5832	
4076 3		4606 4	1 ⁻	5195 4	(2 ⁺ ,3 ⁺)	5840 4	1 ⁻
4116.7 18	2 ⁺	4648 4		5236		5936	
4187 3		4657 3		5247	2 ⁺	5994 4	
4212 3		4675 3		5276 4	(1 ⁻)	6197 4	
4238	(5 ⁻)	4697 3		5282		6236	
4330.7 19	1 ⁻	4717 4		5315 4	(2 ⁺)	6251 4	
4340 3	4 ⁺	4730 3		5350		6260 4	
4347 3	6 ⁺	4756 3		5379 4	1		
4385	(5 ⁻)	4763 4		5390 4			
4410 3		4782 4	1	5415	(4 ⁺)		

[†] From a least-squares fit to E_γ.[‡] From Adopted Levels. $\gamma(^{206}\text{Pb})$

The γ placements have been taken from table 1 of [1982DiZT](#). Additional information shown in the level drawings of [1982DiZT](#) or suggested by other decay modes are noted in comments.

E _γ [†]	I _γ [†]	E _i (level)	J _i ^π	E _f	J _f ^π	Mult. ^e	δ ^e	Comments
184.0 ^{bh} 6		2384.0	6 ⁻	2200.3	7 ⁻	M1(+E2)	-0.01 2	
314	1.70 25	1997.4	4 ⁺	1683.8	4 ⁺	M1+E2	-0.23 5	
317 2	1.70 25	1784.2	2 ⁺	1466.6	2 ⁺			
343.5 7	7.3 3	1683.8	4 ⁺	1340.3	3 ⁺	M1+E2	-0.11 4	
^x 364	0.20 15							
398 2	3.38 23	2782.0	5 ⁻	2384.0	6 ⁻			
^x 434.9 [#] 7	0.65 [#] 16							
^x 450 2	0.45 17							
^x 472 2	0.36 16							
479.5 ^{@h} 7	2.3 [@] 3	2864.5	7 ⁻	2384.0	6 ⁻			
497.1 7	2.1 3	3279.0	5 ⁻	2782.0	5 ⁻			
515.7 ^g	1.6 ^g 4	2200.3	7 ⁻	1683.8	4 ⁺			
515.7 ^g	1.6 ^g 4	3775.7	5 ⁻	3259.8	6 ⁺			
537.5 8	32.0 4	1340.3	3 ⁺	803.1	2 ⁺	M1(+E2)	-0.02 2	
^x 607.0 8	0.44 20							
^x 610.3 8	0.45 20							
^x 617.6 8	0.40 25							
620.5 8	0.27 13	3402.5	5 ⁻	2782.0	5 ⁻			
632.3 [#] 8	1.77 [#] 17	3016.2	5 ⁻	2384.0	6 ⁻			
^x 637.1 8	0.59 23							
657.2 8	6.65 16	1997.4	4 ⁺	1340.3	3 ⁺	M1+E2	0.15 2	

E_γ: From author's figure and text, tentative placement is from the 2313-keV level.

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$^{206}\text{Pb}(\text{n},\text{n}'\gamma)$ **1982DiZT,1983Di07,2015Ne11 (continued)** $\gamma(^{206}\text{Pb})$ (continued)

E_γ [†]	I_γ [†]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^e	δ^e	Comments
663.7 8	7.30 17	1466.6	2 ⁺	803.1	2 ⁺	M1+E2	-0.07 2	I_γ : In ^{206}Bi ε decay, 2.5 units of this I_γ should be from the 2864-keV level, thus leaving 4.8 from this level.
664.17 [‡] 10	2.5 3	2864.5	7 ⁻	2200.3	7 ⁻			I_γ : Using the branching ratio in 2015Ne11 .
682.21		2148.5	2 ⁺	1466.6	2 ⁺	M1+E2	-0.22 5	
718.92 [‡] 5	1.19 4	2423.2	2 ⁺	1704.3	1 ⁺			I_γ : Using the branching ratio in 2015Ne11 .
^x 719.1 8	1.05 9							E_γ : From author's figure, and text, tentative placement is from the 2432-keV level.
729.2 8	0.20 8	2196.3	(3) ⁺	1466.6	2 ⁺	M1(+E2)	-0.05 5	E_γ : 730.17 keV (1989BeYQ).
739.4 8	0.98 13	2939.7	6 ⁻	2200.3	7 ⁻			
^x 747.3 8	0.58 19							
^x 755.0 [#] 8	0.33 [#] 19							
803.1 8	100	803.1	2 ⁺	0.0	0 ⁺			
808.25		2148.5	2 ⁺	1340.3	3 ⁺	M1+E2	-0.27 11	
^x 814.7 8	0.12 9							
840.9 [#] 9	0.72 [#] 23	3224.9	(6,7) ⁻	2384.0	6 ⁻			
856 2	2.99 18	2196.3	(3) ⁺	1340.3	3 ⁺	M1+E2	-0.026 15	
^x 863 2	0.30 15							
^x 868 2	0.45 25							E_γ : From authors' figure placement is from the 3515-keV level.
881.0 9	17.30 25	1683.8	4 ⁺	803.1	2 ⁺			
894.7	1.84 25	3279.0	5 ⁻	2384.0	6 ⁻			
^x 898 2	2.2 3							E_γ : Energy fits from the 1703-keV level, but authors state that $I_\gamma < 0.18$ for this placement.
^x 920.7 [#] 9	0.40 [#] 10							
^x 926.1 9	0.20 15							
^x 930.4 9	0.20 15							
^x 935.4 9	0.17 12							
956.56 [‡] 11	0.39 3	2423.2	2 ⁺	1466.6	2 ⁺			I_γ : Using the branching ratio in 2015Ne11 .
957.5 ^h 9	0.63 13	3606	2 ⁺	2647.5	3 ⁻			
^x 962 [@] 2	0.71 [@] 14							
^x 968.9 9	0.30 13							
980.9 9	5.23 20	1784.2	2 ⁺	803.1	2 ⁺	M1+E2	0.17 2	
995.1 ^h 9	0.21 7	4116.7	2 ⁺	3120.9	(3 ⁺)			
^x 1014 [@] 2	0.14 [@] 7							
1018.6 9	0.27 6	3402.5	5 ⁻	2384.0	6 ⁻			
^x 1024.1 9	0.13 9							
^x 1031.0 9	0.38 10							
1047.6 9	0.22 11	3243.9	4 ⁻	2196.3	(3) ⁺			
1075.9 ^h 9	0.38 20	4005	(4 ⁺)	2928.5	4 ⁺			
^x 1093.3 9	1.27 21							
1098.3 9	2.76 5	2782.0	5 ⁻	1683.8	4 ⁺			I_γ : Using the branching ratio in 2015Ne11 ; $I_\gamma = 2.33$ 21 in 1982DiZT .
^x 1113.4 9	0.17 5							
^x 1124.4 9	0.18 10							
^x 1139.3 9	0.44 21							

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$^{206}\text{Pb}(\text{n},\text{n}'\gamma)$ **1982DiZT,1983Di07,2015Ne11** (continued) $\gamma(^{206}\text{Pb})$ (continued)

E_γ [†]	I_γ [†]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^e	δ^e	Comments
1142.4 9	0.56 23	2826.2	(4) ⁻	1683.8	4 ⁺			
^x 1180.7 10	0.77 12							
1180.70 [‡] 10	1.72 22	2864.5	7 ⁻	1683.8	4 ⁺			I_γ : Using the branching ratio in 2015Ne11 .
1193.8 9	0.65 15	1997.4	4 ⁺	803.1	2 ⁺			
^x 1235.0 10	0.24 7							
1239.0 ^{@c} 10	0.24 [@] 7	4434.1		3195.1 (1,2)				I_γ : Using the branching ratio in 2015Ne11 ; $I_\gamma=0.54$ 8 in 1982DiZT .
1246.5 10	0.44 6	3243.9	4 ⁻	1997.4	4 ⁺			
^x 1268 2	0.51 13							
^x 1283 2	0.54 13							
^x 1291 2	0.32 13							
^x 1305 2	0.24 18							
^x 1325 2	0.49 24							
1332.3 ^d 10	0.49 24	3016.2	5 ⁻	1683.8	4 ⁺			
1344.8 10	2.97 21	2148.5	2 ⁺	803.1	2 ⁺	M1+E2	-0.17 2	
^x 1361.4 10	0.74 33							
^x 1368.0 [#] 10	0.26 [#] 12							
^x 1385.5 10	0.60 20							
1393.7 10	2.34 15	2196.3	(3) ⁺	803.1	2 ⁺	M1+E2	-0.019 9	
^x 1416 ^b 2								
1432.6 [#] 10	2.81 [#] 15	2235.7		803.1	2 ⁺			
^x 1452.3 10	0.52 25							
^x 1457 2	0.53 25							
^x 1460 [#] 2	0.5 [#] 3							
1466.7 10	2.13 13	1466.6	2 ⁺	0.0	0 ⁺			
^x 1472.4 10	0.6 3							
^x 1480 ^{&}	0.21 ^{&} 12							
^x 1487 ^{&} 2	0.22 ^{&} 13							
^x 1495 [@] 2	0.23 [@] 10							
1520.0 ^h 11	0.27 10	3944		2423.2	2 ⁺			
^x 1525.5 11	0.24 10							
^x 1532.7 11	0.13 7							
^x 1537.7 11	0.11 7							
^x 1546.4 [@] 11	0.14 [@] 6							
1560.3 11	1.20 16	3243.9	4 ⁻	1683.8	4 ⁺			
1565.0 11	0.36 12	3562.4	5 ⁻	1997.4	4 ⁺			
1575.9 11	0.77 16	3259.8	6 ⁺	1683.8	4 ⁺			
^x 1580.1 11	0.33 16							
^x 1585.1 11	0.78 24							
1588.2 [‡] 1		2391.3		803.1	2 ⁺			
1588.2 11	1.94 23	2928.5	4 ⁺	1340.3	3 ⁺			
1595.3 11	0.58 23	3279.0	5 ⁻	1683.8	4 ⁺			
^x 1614 ^b 2								
1620.0 11	1.87 19	2423.2	2 ⁺	803.1	2 ⁺			
^x 1648 2	0.33 9							
^x 1653 ^{&} 2	0.26 ^{&} 13							
^x 1655.5 ^{&} 11	0.26 ^{&} 13							
^x 1686 ^b 2								
^x 1690 [#] 2	0.66 [#] 12							
1700.1 11	1.5 6	3484.3		1784.2	2 ⁺			

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$^{206}\text{Pb}(\text{n},\text{n}'\gamma)$ **1982DiZT,1983Di07,2015Ne11 (continued)** $\gamma(^{206}\text{Pb})$ (continued)

E_γ †	I_γ †	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
1703.5 11	4.6 6	1704.3	1 ⁺	0.0	0 ⁺	
^x 1714 ^b 2						
^x 1717.3 ^{&} 11	0.82 ^{&} 24					
1718.7 ^{&} 11	0.83 ^{&} 24	3402.5	5 ⁻	1683.8	4 ⁺	
^x 1749 [#] 2	0.42 [#] 10					
^x 1757.0 11	0.21 8					
^x 1764.8 11	0.25 12					
^x 1769.7 11	1.39 16					
1778.4 ^h 11	0.16 8	3775.7	5 ⁻	1997.4	4 ⁺	
^x 1782 ^{&} 2	0.13 ^{&} 8					
1784.7 11	0.27 8	1784.2	2 ⁺	0.0	0 ⁺	
^x 1786.5 11	0.33 10					
^x 1795.3 11	0.98 17					
^x 1800.9 11	0.53 17					
1821.7 ^{#h} 11	0.98 [#] 9	3606	2 ⁺	1784.2	2 ⁺	
^x 1835.9 ^{&} 12	0.49 ^{&} 22					
1844.4 11	5.81 16	2647.5	3 ⁻	803.1	2 ⁺	
1854.1 ^h 11	0.20 15	4238	(5 ⁻)	2384.0	6 ⁻	
^x 1861.5 12	0.41 8					
^x 1869.7 12	0.27 12					
^x 1873.4 ^{&} 12	0.37 ^{&} 14					
1878.7 12	0.85 10	3562.4	5 ⁻	1683.8	4 ⁺	
1899.6 ^h 12	0.36 14	3683		1784.2	2 ⁺	
1903.6 12	1.25 17	3243.9	4 ⁻	1340.3	3 ⁺	I_γ : Using the branching ratio in 2015Ne11; $I_\gamma=0.82$ 14 in 1982DiZT.
^x 1927 ^b 2						
^x 1933.1 12	0.20 13					
^x 1938.5 12	0.28 13					
^x 1955.2 ^{&} 12	0.29 ^{&} 13					
^x 1961.0 ^{&} 12	0.29 ^{&} 13					
^x 1971.3 [#] 12	0.76 [#] 8					
^x 1981 2	0.08 4					
^x 1988.4 ^{&} 12	0.08 ^{&} 4					
1995.5 ^{&h} 12	0.27 ^{&} 13	3780		1784.2	2 ⁺	
^x 1995.8 ^{&} 12	0.10 ^{&} 9					
^x 2002.5 12	0.41 10					
2008.0 ^h 12	0.43 11	4005	(4 ⁺)	1997.4	4 ⁺	
2041 ^h 2	0.30 8	3744.3	1	1704.3	1 ⁺	
^x 2049.5 12	0.17 6					
^x 2055 [#] 2	0.27 [#] 7					
2092.1 [#] 12	1.1 [#] 3	3775.7	5 ⁻	1683.8	4 ⁺	
^x 2127 2	0.20 6					
2149 [#] 2	0.11 [#] 5	2148.5	2 ⁺	0.0	0 ⁺	
^x 2159.6 [#] 12	0.29 [#] 6					
^x 2165 [@] 2	0.13 [@] 6					
^x 2181.6 13	0.36 15					
^x 2185.7 [#] 13	0.36 [#] 15					

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$^{206}\text{Pb}(\text{n},\text{n}'\gamma)$ **1982DiZT,1983Di07,2015Ne11** (continued) $\gamma(^{206}\text{Pb})$ (continued)

E_γ [†]	I_γ [†]	$E_i(\text{level})$	J_i^π	E_f	J_f^π
$^{x2208.2}_{13}$	0.18 $_{12}$				
$^{x2219.4}_{13}$	0.38 $_{10}$				
$^{2235}_{\#h} 2$	0.34 $_{\#} 14$	4469.3		2235.7	
$^{x2256}_{\&} 2$	0.32 $_{\&} 10$				
$^{x2268.7}_{13}$	0.35 $_{20}$				
$^{x2300}_{\&} 2$	0.34 $_{\&} 14$				
$^{2305}_{\#h} 2$	0.51 $_{14}$	3989		1683.8	4^+
$^{2314}_{\#h} 2$	0.50 $_{13}$	3780		1466.6	2^+
$^{2317.8}_{12}$	1.01 $_{13}$	3120.9	(3^+)	803.1	2^+
$^{x2324}_{\&} 2$	0.36 $_{\&} 14$				
$^{x2333}_{\&} 2$	0.42 $_{\&} 14$				
$^{x2347}_{\#} 2$	0.30 $_{\#} 15$				
$^{x2355}_{\&} 2$	0.45 $_{15}$				
$^{x2370}_{\&} 2$	0.30 $_{12}$				
$^{x2380}_{\#} 2$	0.23 $_{\#} 10$				
$^{2385}_{\#h} 2$	0.14 $_9$	4697		2313.8	0^+
$^{x2390}_{\#} 2$	0.28 $_{\#} 13$				
$^{x2394}_{\&} 2$	0.26 $_{13}$				
$^{x2411}_{\#} 3$	0.32 $_{\#} 9$				
$^{x2415}_{\&} 3$	0.32 $_9$				
$^{x2424}_{\&} 3$	0.14 $_{\&} 6$				
$^{x2433}_{\&} 3$	0.10 $_{\&} 5$				
$^{x2438}_{\&} 3$	0.14 $_{\&} 7$				
$^{2460}_{\@h} 3$	0.31 $_{\@} 15$	4657		2196.3	$(3)^+$
$^{x2488}_{\&} 3$	0.39 $_{13}$				
$^{2495}_{\#h} 3$	0.10 $_{\#} 7$	4730		2235.7	
$^{2503}_{\#h} 3$	0.29 $_{\#} 7$	4187		1683.8	4^+
$^{x2518}_{\#} 3$	0.34 $_{\#} 7$				
$^{x2539}_{\#} 3$	0.36 $_{\#} 12$				
$^{x2546}_{\#} 3$	0.37 $_{\#} 12$				
$^{x2565}_{\#} 3$	0.37 $_{\#} 13$				
$^{2583}_{\#h} 3$	0.51 $_{\#} 20$	4730		2148.5	2^+
$^{2605}_{\#h} 3$	0.21 $_{13}$	3944		1340.3	3^+
$^{x2619}_{\&} 3$	0.8 $_{\&} 5$				
$^{2627}_{\#gh} 3$	0.19 $_{\#} 14$	4330.7	1^-	1704.3	1^+
$^{2627}_{\#gh} 3$	0.19 $_{\#} 14$	4410		1784.2	2^+
$^{x2632}_{\&} 3$	0.57 $_{12}$				
$^{x2641.4}_{14}$	0.75 $_{20}$				
$^{2650.4}_{14}$	2.67 $_{25}$	3453.5	4^+	803.1	2^+
$^{x2660}_{\&} 3$	0.27 $_{12}$				
$^{x2664}_{\&} 3$	0.28 $_{12}$				
$^{x2672}_{\&} 3$	0.29 $_{15}$				
$^{x2676}_{\&} 3$	0.60 $_{\&} 15$				
$^{2681}_{\&} 3$	1.34 $_{\&} 20$	3484.3		803.1	2^+
$^{x2685}_{\&} 3$	0.40 $_{\&} 20$				
$^{2701}_{\#h} 3$	0.15 $_{10}$	4385	(5^-)	1683.8	4^+

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$^{206}\text{Pb}(\text{n},\text{n}'\gamma)$ **1982DiZT,1983Di07,2015Ne11 (continued)** $\gamma(^{206}\text{Pb})$ (continued)

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π
2713 $\&_3$	0.68 $\&_{13}$	3516	(4 ⁺)	803.1	2 ⁺
2717 $\&h_3$	0.45 $\&_{15}$	4420		1704.3	1 ⁺
x2738_3	0.26 6				
x2761_3	0.16 9				
$^x2764.6_{14}$	0.83 15				
2775.0 $\#h_{14}$	0.61 $\#_{14}$	4116.7	2 ⁺	1340.3	3 ⁺
$^x2803\&_3$	0.38 $\&_8$				
$^x2808\&_3$	0.19 $\&_8$				
$^x2825\#_3$	0.25 $\#_{14}$				
$^x2834\#_3$	0.50 $\#_{14}$				
$^x2844\#_3$	0.32 $\#_{15}$				
$^x2860\#_3$	0.08 $\#_6$				
$^x2870\#_3$	0.14 $\#_8$				
2880 h_3	0.16 8	3683		803.1	2 ⁺
x2907_3	0.27 9				
x2930_3	0.07 4				
2941 $\&h_3$	0.10 $\&_4$	3744.3	1	803.1	2 ⁺
$^x2944\&_3$	0.18 $\&_{10}$				
2977 h_3	0.06 4	3780		803.1	2 ⁺
x2987_3	0.33 6				
$^x3009\#_3$	0.37 $\#_6$				
x3064_3	0.13 8				
3079 gh_3	0.32 g_6	4420		1340.3	3 ⁺
3079 gh_3	0.32 g_6	4782	1	1704.3	1 ⁺
$^x3106^b_3$					
$^x3114\#_3$	0.14 $\#a_{10}$				
3141 $g\#h_3$	0.21 $g\#_5$	3944		803.1	2 ⁺
3141 $g\#h_3$	0.21 $g\#_5$	4606	1 ⁻	1466.6	2 ⁺
3168 h_3	0.29 4	3971		803.1	2 ⁺
3186 3	0.30 7	3989		803.1	2 ⁺
3195 3	0.69 7	3195.1	(1,2)	0.0	0 ⁺
3207 $\&_3$	0.33 $\&_{10}$	4010		803.1	2 ⁺
$^x3211\&_3$	0.17 $\&_{10}$				
3232 3	0.16 8	4035		803.1	2 ⁺
3242 3	0.23 11	4045		803.1	2 ⁺
x3252_3	0.09 4				
3263 3	0.22 6	4066	(5) ⁻	803.1	2 ⁺
3273 3	0.22 6	4076		803.1	2 ⁺
$^x3285^b_3$					
$^x3299\&_3$	0.29 $\&_{14}$				
3307 $\&h_3$	0.30 $\&_{15}$	4648		1340.3	3 ⁺
3384 $\#_3$	0.17 $\#_7$	4187		803.1	2 ⁺
x3419_3	0.17 5				
$^x3448\&@_3$	0.17 $\&@_8$				
$^x3484^b_3$					
x3497_3	0.14 4				

Continued on next page (footnotes at end of table)

$^{206}\text{Pb}(\text{n},\text{n}'\gamma)$ **1982DiZT,1983Di07,2015Ne11 (continued)** $\gamma(^{206}\text{Pb})$ (continued)

E_γ †	I_γ †	$E_i(\text{level})$	J_i^π	E_f	J_f^π
$^{x3522}_3$	0.23 5				
$^{x3538}_{b3}$					
3544 3	0.40 5	4347	6 ⁺	803.1	2 ⁺
$^{x3578}_3$	0.34 5				
$^{x3595}_{\&3}$	0.15 & 6				
$^{3607}_{\&3}$	0.83 & 15	4410		803.1	2 ⁺
$^{3624}_h3$	0.39 15	4427		803.1	2 ⁺
3631 3	0.22 11	4434.1		803.1	2 ⁺
$^{x3644}_3$	0.09 5				
3656 3	0.06 3	4459	(5 ⁻)	803.1	2 ⁺
$^{x3686}_{b3}$					
3709 3	0.10 5	4512		803.1	2 ⁺
$^{x3712}_{b3}$					
3722 3	0.24 4	4525		803.1	2 ⁺
$^{3744.3}_{17}$	0.63 6	3744.3	1	0.0	0 ⁺
$^{3854}_{\#3}$	0.23 # 4	4657		803.1	2 ⁺
$^{3872}_{\#3}$	0.10 # 2	4675		803.1	2 ⁺
3894 3	0.14 3	4697		803.1	2 ⁺
$^{3927}_{\#3}$	0.23 # 8	4730		803.1	2 ⁺
$^{3953}_{\&3}$	0.17 & 5	4756		803.1	2 ⁺
$^{3963}_{\&3}$	0.07 & 4	3963	4 ⁺	0.0	0 ⁺
$^{3971}_{\&3}$	0.16 & 5	3971		0.0	0 ⁺
$^{3992}_{\&3}$	0.13 & 9	4795	5 ⁻	803.1	2 ⁺
$^{3997}_{\&3}$	0.13 & 9	3997		0.0	0 ⁺
$^{x4004}_{b3}$					
4051 3	0.08 4	4051		0.0	0 ⁺
$^{4111}_{bh3}$		4914	(3 ⁻)	803.1	2 ⁺
$^{4116.7}_{18}$	0.86 7	4116.7	2 ⁺	0.0	0 ⁺
$^{4163}_{bh3}$		4966	(3 ⁻)	803.1	2 ⁺
4212 3	0.11 3	4212		0.0	0 ⁺
$^{4286}_{b3}$		5089	3 ⁺	803.1	2 ⁺
$^{4330.7}_{19}$	0.29 4	4330.7	1 ⁻	0.0	0 ⁺
$^{4340}_3$	0.13 5	4340	4 ⁺	0.0	0 ⁺
$^{x4356}_{b3}$					
4420 4	0.08 3	4420		0.0	0 ⁺
4434 4	0.10 5	4434.1		0.0	0 ⁺
$^{4469.2}_{19}$	0.13 3	4469.3		0.0	0 ⁺
$^{4473}_{b4}$		5276	(1 ⁻)	803.1	2 ⁺
$^{4482.9}_{19}$	0.24 5	4483.0		0.0	0 ⁺
$^{4576}_{b4}$		5379	1	803.1	2 ⁺
$^{x4599}_{b4}$					
4606 4	0.08 3	4606	1 ⁻	0.0	0 ⁺
$^{4612}_{bh4}$		5415	(4 ⁺)	803.1	2 ⁺
$^{x4631}_{b4}$					
4648 4	0.08 4	4648		0.0	0 ⁺
4717 4	0.04 2	4717		0.0	0 ⁺
4763 4	0.06 3	4763		0.0	0 ⁺
4782 4	0.06 3	4782	1	0.0	0 ⁺

Continued on next page (footnotes at end of table)

$^{206}\text{Pb}(\text{n},\text{n}'\gamma)$ **1982DiZT,1983Di07,2015Ne11 (continued)** $\gamma(^{206}\text{Pb})$ (continued)

$E_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	$E_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π
4799 ^b 4	5602	(2 ⁺)	803.1	2 ⁺	^x 5326 ^b				
^x 4824 ^b 4					5350 ^{bh} 4	5350		0.0	0 ⁺
4848 ^b 4	4848		0.0	0 ⁺	^x 5385 ^b 4				
4938 ^b 4	5741		803.1	2 ⁺	5390 ^b 4	5390		0.0	0 ⁺
^x 4960 ^b 4					^x 5409 ^b				
4972 ^{bh} 4	4972	1 ⁻	0.0	0 ⁺	5513 ^{bh} 4	5513		0.0	0 ⁺
4972 ^{bh} 4	5775	(1 ⁻)	803.1	2 ⁺	5522 ^{bh} 4	5522	1	0.0	0 ⁺
^x 4985 ^b 4					5580 ^b 4	5580	1 ⁻	0.0	0 ⁺
5029 ^{bh} 4	5832		803.1	2 ⁺	^x 5589 ^b 4				
5042 ^{bh}	5042	1 ⁻	0.0	0 ⁺	5618 ^b 4	5618	1 ⁻	0.0	0 ⁺
5180 ^b 4	5180		0.0	0 ⁺	5840 ^b 4	5840	1 ⁻	0.0	0 ⁺
5195 ^b 4	5195	(2 ⁺ ,3 ⁺)	0.0	0 ⁺	5936 ^{bh} 4	5936		0.0	0 ⁺
5236 ^{bh}	5236		0.0	0 ⁺	5994 ^b 4	5994		0.0	0 ⁺
5247 ^{bh} 4	5247	2 ⁺	0.0	0 ⁺	6197 ^b 4	6197		0.0	0 ⁺
5282 ^{bh} 4	5282		0.0	0 ⁺	6236 ^{bh} 4	6236		0.0	0 ⁺
^x 5300 ^b					6251 ^b 4	6251		0.0	0 ⁺
5315 ^b 4	5315	(2 ⁺)	0.0	0 ⁺	6260 ^b 4	6260		0.0	0 ⁺

[†] From 1982DiZT [E(n)=4.8 MeV], unless otherwise stated.

[‡] From adopted gammas. Transition observed only in 2015Ne11.

Broad peak. Possibly a doublet.

@ Probably a contaminant from another reaction.

& Data estimated from a broad peak.

^a Probably an escape peak from a higher energy γ .

^b From 1982DiZT, but only observed with E(n)>5 MeV.

^c Placement in the author's table is from the 4459-keV level, but placement from the 4434-keV level is given in the figure.

^d Placement from adopted gammas.

^e From 1989BeYQ.

^f Multiply placed.

^g Multiply placed with undivided intensity.

^h Placement of transition in the level scheme is uncertain.

^x γ ray not placed in level scheme.

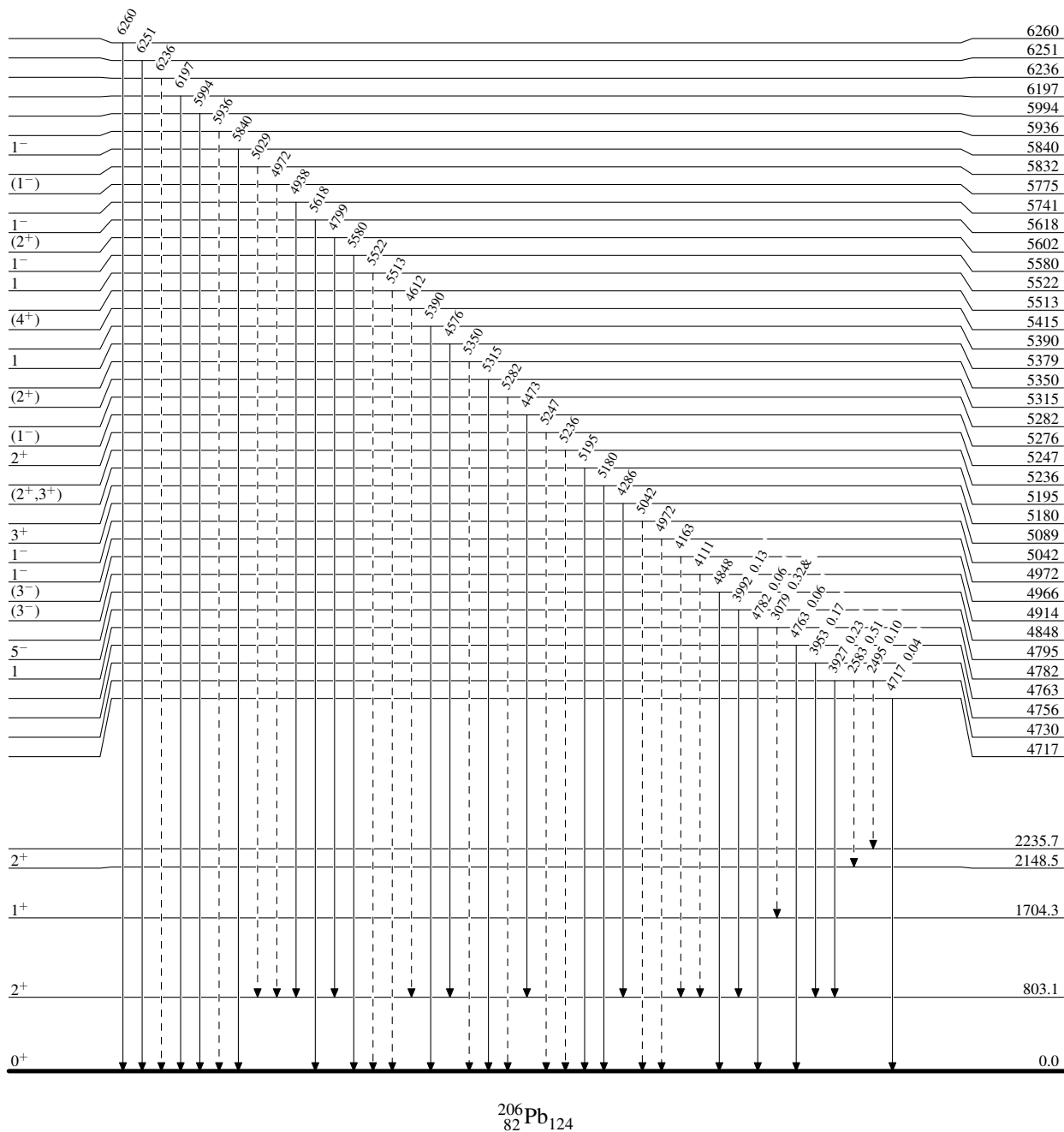
$^{206}\text{Pb}(\text{n},\text{n}'\gamma)$ 1982DiZT,1983Di07,2015Ne11

Level Scheme

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

Legend

- $I_\gamma < 2\% \times I_\gamma^{\max}$
- $I_\gamma < 10\% \times I_\gamma^{\max}$
- $I_\gamma > 10\% \times I_\gamma^{\max}$
- - - - -→ γ Decay (Uncertain)

 $^{206}_{82}\text{Pb}_{124}$

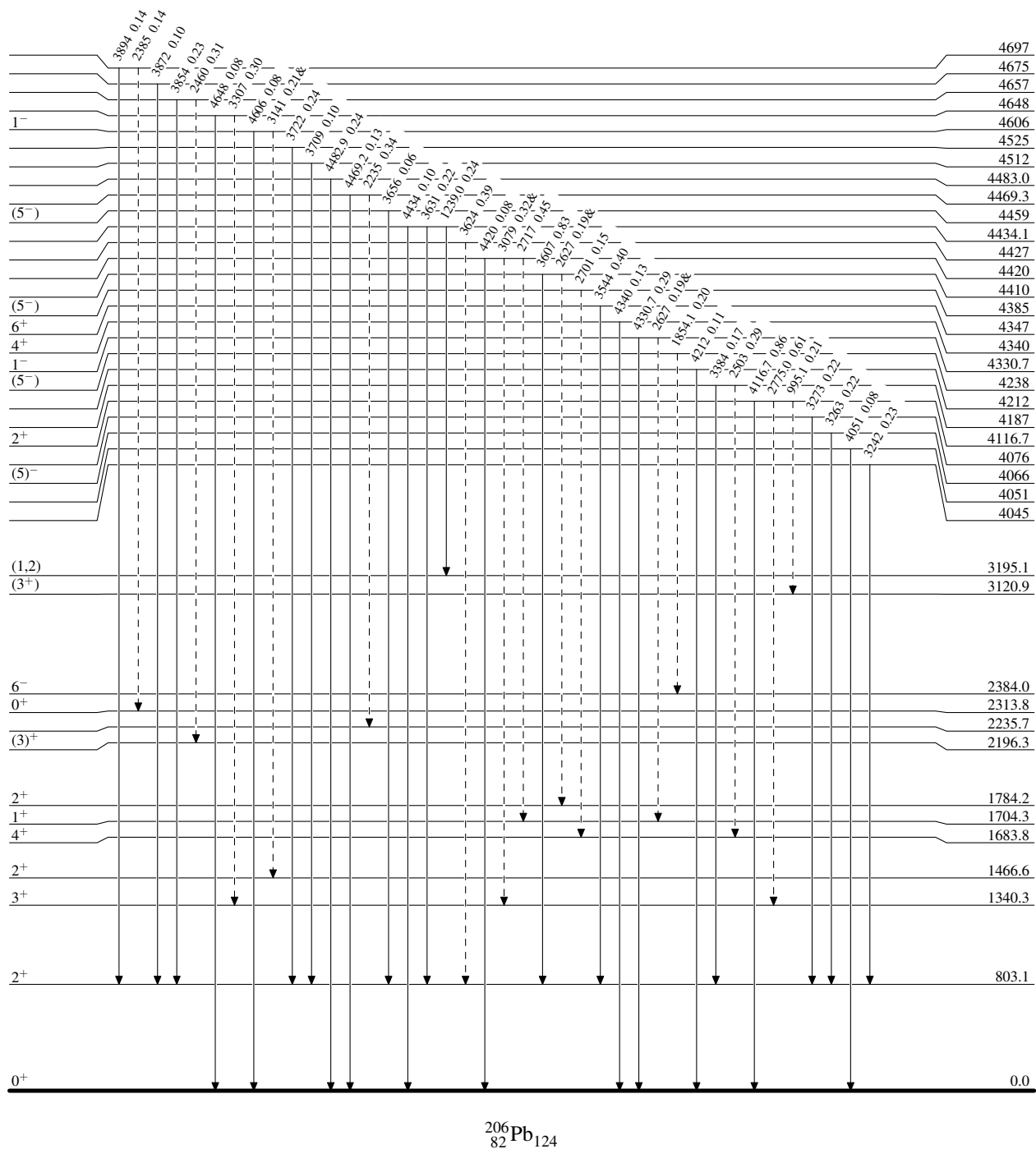
$^{206}\text{Pb}(n,n'\gamma)$ 1982DiZT,1983Di07,2015Ne11

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

Legend

- $I_\gamma < 2\% \times I_\gamma^{\max}$
- $I_\gamma < 10\% \times I_\gamma^{\max}$
- $I_\gamma > 10\% \times I_\gamma^{\max}$
- - - γ Decay (Uncertain)

 $^{206}_{82}\text{Pb}_{124}$

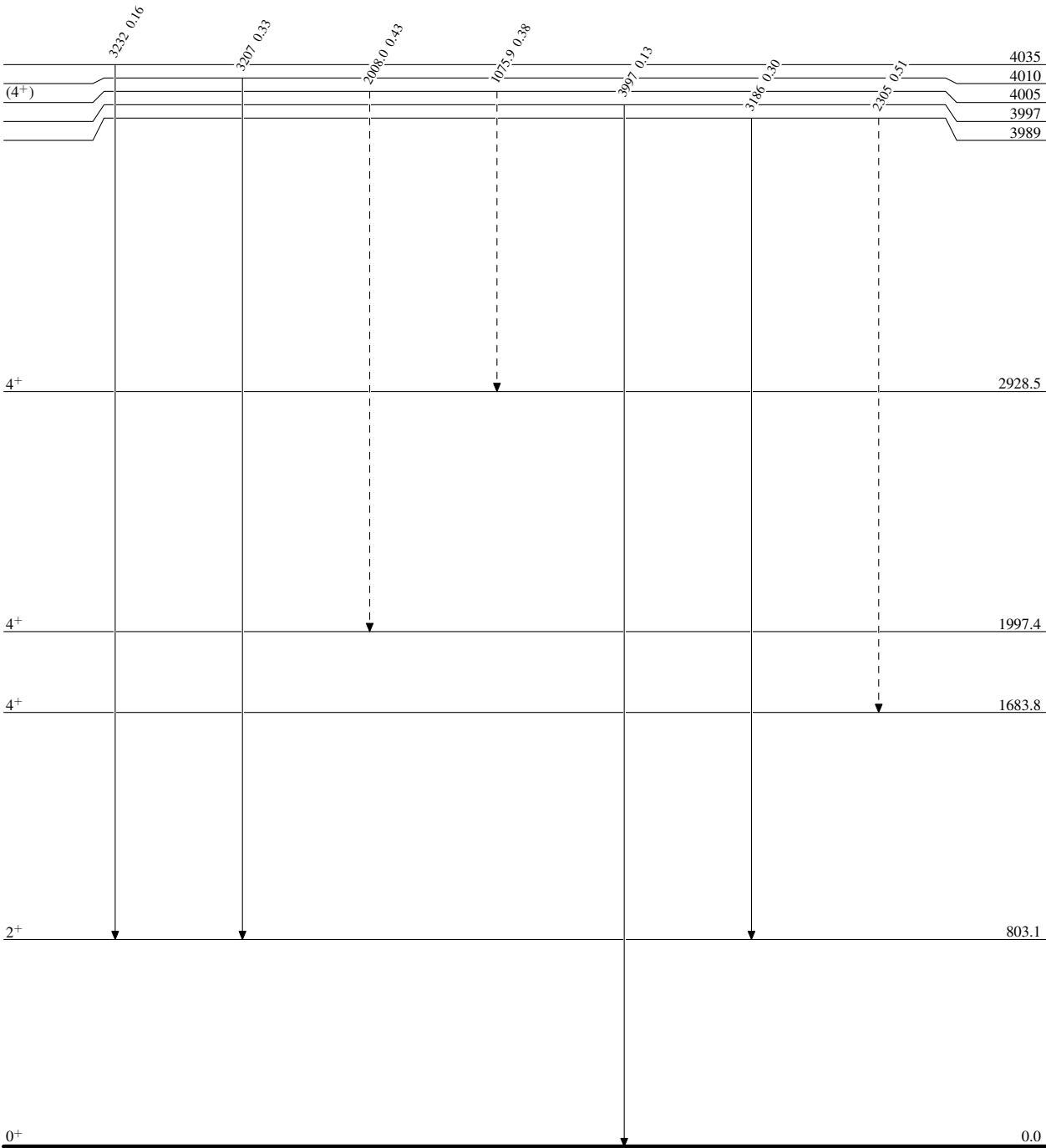
²⁰⁶Pb(n,n'γ) 1982DiZT,1983Di07,2015Ne11

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

Legend

- I_γ < 2% × I_γ^{max}
- I_γ < 10% × I_γ^{max}
- I_γ > 10% × I_γ^{max}
- - - - - γ Decay (Uncertain)



²⁰⁶₈₂Pb₁₂₄

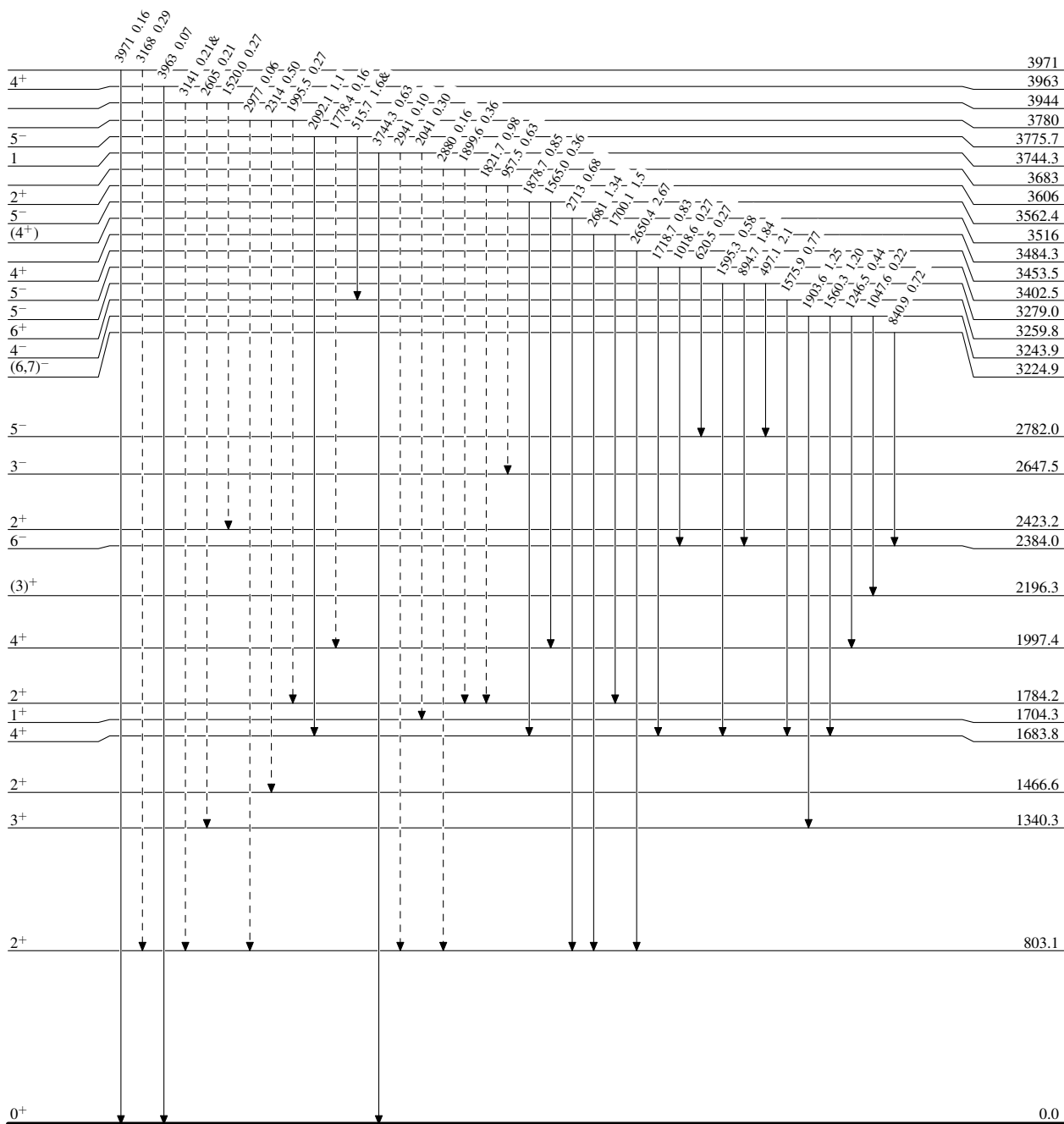
$^{206}\text{Pb}(n,n'\gamma)$ 1982DiZT,1983Di07,2015Ne11

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

Legend

- $\longrightarrow$ $I_\gamma < 2\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma < 10\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma > 10\% \times I_\gamma^{\max}$
 $-----\longrightarrow$ γ Decay (Uncertain)

 $^{206}_{82}\text{Pb}_{124}$

$^{206}\text{Pb}(n,n'\gamma)$ 1982DiZT,1983Di07,2015Ne11

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

Legend

- $\longrightarrow$ $I_\gamma < 2\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma < 10\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma > 10\% \times I_\gamma^{\max}$
 $\longrightarrow$ γ Decay (Uncertain)

