

<sup>110</sup>Pd(<sup>40</sup>Ar,5n $\gamma$ ) **1996Sc04**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli		NDS 110, 507 (2009)	1-Oct-2008

1996Sc04: E=181 MeV. Measured  $\gamma$ ,  $\gamma\gamma$  using OSIRIS array of 12 Compton-suppressed Ge detectors.

<sup>145</sup>Gd Levels

E(level) <sup>†</sup>	J <sup><math>\pi</math></sup> <sup>‡</sup>	T <sub>1/2</sub>	E(level) <sup>†</sup>	E(level) <sup>†</sup>	E(level) <sup>†</sup>
0.0	1/2 <sup>+</sup>		3468.1 5	5463.4 6	7471.4 7
27.3 3	3/2 <sup>+</sup>		3505.1 5	5486.3 7	7501.7 7
748.6 4	11/2 <sup>-</sup>	85 s	3508.7 7	5535.6 6	7715.4 8
1014.8 4			3557.7 5	5683.4 6	8119.4 8
1272.4 5	7/2 <sup>-</sup>		3651.6 6	5728.6 6	8182.0 7
2194.9 5	11/2 <sup>-</sup>		3672.8 6	5753.4 6	8197.4 7
2199.3 5	13/2 <sup>+</sup>		3693.8 6	5904.5 8	8210.7 7
2301.1 5	13/2 <sup>+</sup>		4036.0 5	5929.9 7	8245.6 7
2410.5 5	15/2 <sup>+</sup>		4154.5 5	6068.6 7	8384.8 9
2431.3 5	17/2 <sup>+</sup>		4159.2 6	6158.5 7	8635.6 8
2441.5 5	13/2 <sup>-</sup>		4239.2 6	6263.7 7	8732.5 7
2639.9 5			4282.2 6	6546.0 7	8802.8 8
2657.7 5			4335.1 6	6680.8 7	9023.5 9
2782.5 5			4538.4 6	6697.6 7	9371.5 9
2934.3 5			4900.1 6	6864.8 7	9376.0 9
2972.8 5			4935.3 6	6898.7 7	9599.9 9
3104.2 5			5022.3 6	6954.5 7	10202.2 8
3173.9 6			5031.6 6	7032.4 7	10254.5 8
3193.1 5			5315.5 7	7096.8 7	10416.2 8
3205.9 5	17/2 <sup>+</sup>		5413.0 7	7219.7 8	11331.8 9
3355.6 5	19/2 <sup>+</sup>		5413.2 6	7221.8 8	12174.4 9
3456.6 5	21/2 <sup>+</sup>		5445.3 6	7262.2 7	

<sup>†</sup> From least-squares fit to E $\gamma$ 's, assuming  $\Delta(E\gamma)=0.3$  keV.

<sup>‡</sup> From Adopted Levels.

$\gamma(^{145}\text{Gd})$

E $\gamma$	E <sub>i</sub> (level)	J <sup><math>\pi</math></sup> <sub>i</sub>	E <sub>f</sub>	J <sup><math>\pi</math></sup> <sub>f</sub>	E $\gamma$	E <sub>i</sub> (level)	J <sup><math>\pi</math></sup> <sub>i</sub>	E <sub>f</sub>	J <sup><math>\pi</math></sup> <sub>f</sub>
4.7	4159.2		4154.5		122.4	5022.3		4900.1	
21.0	2431.3	17/2 <sup>+</sup>	2410.5	15/2 <sup>+</sup>	138.7	6068.6		5929.9	
25.0	5753.4		5728.6		149.5	3355.6	19/2 <sup>+</sup>	3205.9	17/2 <sup>+</sup>
27.3	27.3	3/2 <sup>+</sup>	0.0	1/2 <sup>+</sup>	169.7	3104.2		2934.3	
37.0	3505.1		3468.1		176.4	5929.9		5753.4	
48.4	3505.1		3456.6	21/2 <sup>+</sup>	190.3	2972.8		2782.5	
52.5	3557.7		3505.1		193.1	5728.6		5535.6	
64.3	7096.8		7032.4		198.1	7096.8		6898.7	
84.7	4239.2		4154.5		201.1	3173.9		2972.8	
93.7	3651.6		3557.7		211.1	2410.5	15/2 <sup>+</sup>	2199.3	13/2 <sup>+</sup>
96.0	4335.1		4239.2		220.3	3193.1		2972.8	
101.0	3456.6	21/2 <sup>+</sup>	3355.6	19/2 <sup>+</sup>	238.0	5683.4		5445.3	
101.5	3205.9	17/2 <sup>+</sup>	3104.2		244.0	7715.4		7471.4	
109.3	2410.5	15/2 <sup>+</sup>	2301.1	13/2 <sup>+</sup>	246.6	2441.5	13/2 <sup>-</sup>	2194.9	11/2 <sup>-</sup>
112.6	3468.1		3355.6	19/2 <sup>+</sup>	257.4	1272.4	7/2 <sup>-</sup>	1014.8	
115.1	3672.8		3557.7		263.5	3456.6	21/2 <sup>+</sup>	3193.1	
118.4	4154.5		4036.0		265.2	5728.6		5463.4	

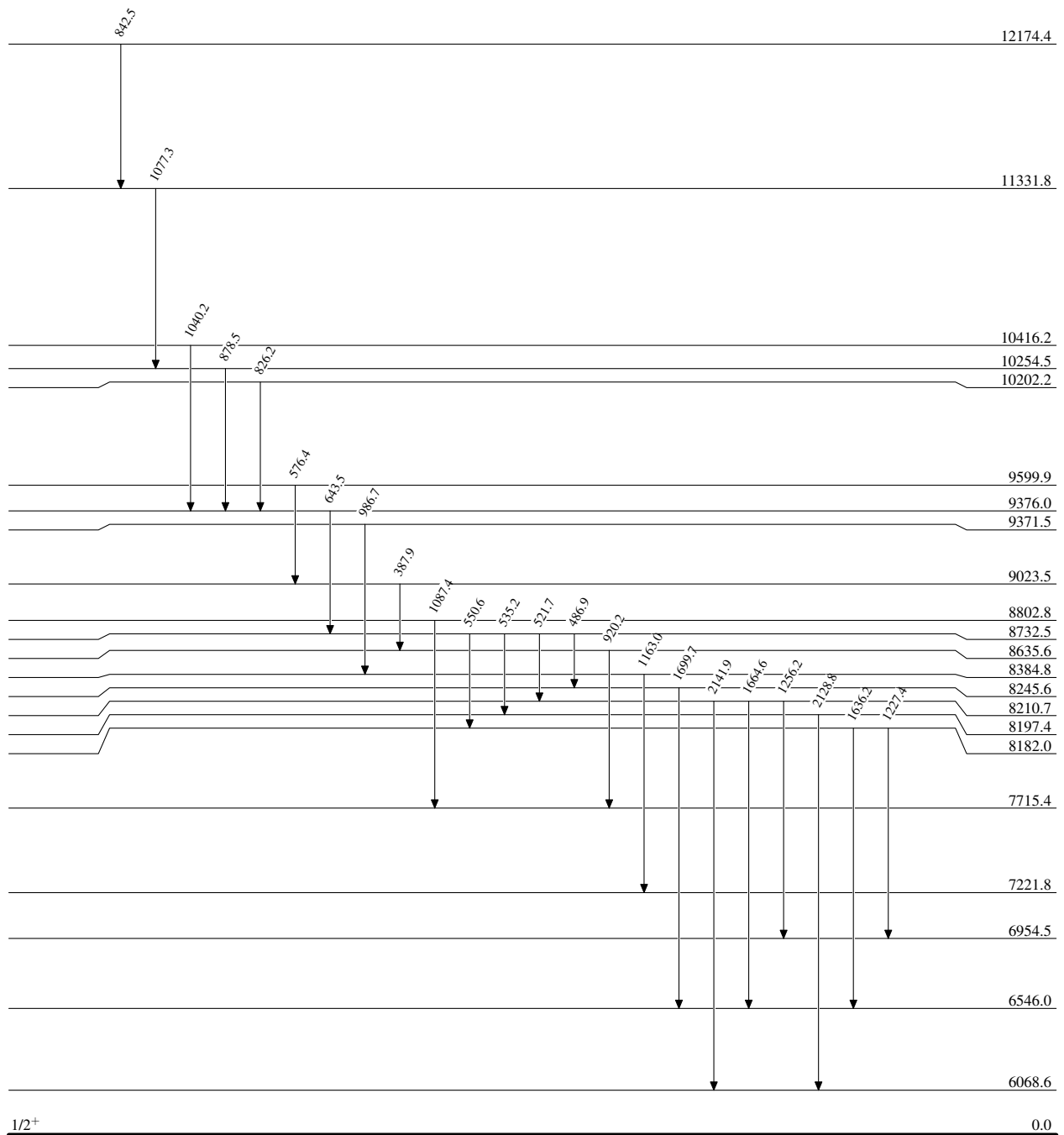
Continued on next page (footnotes at end of table)

$^{110}\text{Pd}(^{40}\text{Ar},5n\gamma)$  **1996Sc04** (continued) $\gamma(^{145}\text{Gd})$  (continued)

$E_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	$E_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$
315.0	2972.8		2657.7		777.4	6263.7		5486.3	
315.5	5728.6		5413.2		790.6	7471.4		6680.8	
318.8	6864.8		6546.0		793.3	5728.6		4935.3	
334.8	3508.7		3173.9		795.5	3205.9	17/2 <sup>+</sup>	2410.5	15/2 <sup>+</sup>
339.9	5753.4		5413.0		826.2	10202.2		9376.0	
357.0	7221.8		6864.8		842.5	12174.4		11331.8	
374.6	7471.4		7096.8		843.0	4036.0		3193.1	
379.1	4538.4		4159.2		872.4	5031.6		4159.2	
387.9	9023.5		8635.6		878.5	10254.5		9376.0	
390.7	5413.0		5022.3		920.2	8635.6		7715.4	
396.8	4935.3		4538.4		924.4	3355.6	19/2 <sup>+</sup>	2431.3	17/2 <sup>+</sup>
399.1	7096.8		6697.6		926.7	2199.3	13/2 <sup>+</sup>	1272.4	7/2 <sup>-</sup>
475.1	6158.5		5683.4		945.2	3355.6	19/2 <sup>+</sup>	2410.5	15/2 <sup>+</sup>
477.7	5413.2		4935.3		955.7	7501.7		6546.0	
478.3	4036.0		3557.7		968.8	6898.7		5929.9	
483.8	5022.3		4538.4		986.7	9371.5		8384.8	
486.9	8732.5		8245.6		987.3	1014.8		27.3	3/2 <sup>+</sup>
491.5	5904.5		5413.0		997.2	5535.6		4538.4	
502.8	4154.5		3651.6		1025.3	3456.6	21/2 <sup>+</sup>	2431.3	17/2 <sup>+</sup>
503.9	5535.6		5031.6		1040.2	10416.2		9376.0	
507.5	4159.2		3651.6		1059.7	6546.0		5486.3	
521.7	8732.5		8210.7		1077.3	11331.8		10254.5	
530.9	4036.0		3505.1		1087.4	8802.8		7715.4	
531.2	2972.8		2441.5	13/2 <sup>-</sup>	1102.5	7032.4		5929.9	
535.2	8732.5		8197.4		1151.3	5486.3		4335.1	
535.5	3193.1		2657.7		1163.0	8384.8		7221.8	
538.8	7219.7		6680.8		1190.3	5728.6		4538.4	
550.6	8732.5		8182.0		1227.4	4900.1		3672.8	
553.3	3193.1		2639.9		1227.4	8182.0		6954.5	
563.3	5463.4		4900.1		1256.2	8210.7		6954.5	
568.0	4036.0		3468.1		1376.5	5535.6		4159.2	
576.4	9599.9		9023.5		1392.7	3693.8		2301.1	13/2 <sup>+</sup>
579.3	4036.0		3456.6	21/2 <sup>+</sup>	1401.3	5683.4		4282.2	
587.7	4239.2		3651.6		1446.3	2194.9	11/2 <sup>-</sup>	748.6	11/2 <sup>-</sup>
596.7	4154.5		3557.7		1450.9	2199.3	13/2 <sup>+</sup>	748.6	11/2 <sup>-</sup>
609.4	4282.2		3672.8		1468.2	6954.5		5486.3	
612.3	6680.8		6068.6		1552.5	2301.1	13/2 <sup>+</sup>	748.6	11/2 <sup>-</sup>
617.7	8119.4		7501.7		1636.2	8182.0		6546.0	
643.5	9376.0		8732.5		1664.6	8210.7		6546.0	
649.5	4154.5		3505.1		1682.8	2431.3	17/2 <sup>+</sup>	748.6	11/2 <sup>-</sup>
653.0	4935.3		4282.2		1699.7	8245.6		6546.0	
662.7	3104.2		2441.5	13/2 <sup>-</sup>	1772.3	5445.3		3672.8	
681.6	4239.2		3557.7		1891.3	2639.9		748.6	11/2 <sup>-</sup>
693.9	3104.2		2410.5	15/2 <sup>+</sup>	1909.0	2657.7		748.6	11/2 <sup>-</sup>
716.2	7262.2		6546.0		2034.0	2782.5		748.6	11/2 <sup>-</sup>
721.5	748.6	11/2 <sup>-</sup>	27.3	3/2 <sup>+</sup>	2128.8	8197.4		6068.6	
740.0	5022.3		4282.2		2141.9	8210.7		6068.6	
767.7	6697.6		5929.9		2185.4	2934.3		748.6	11/2 <sup>-</sup>
777.1	5315.5		4538.4						

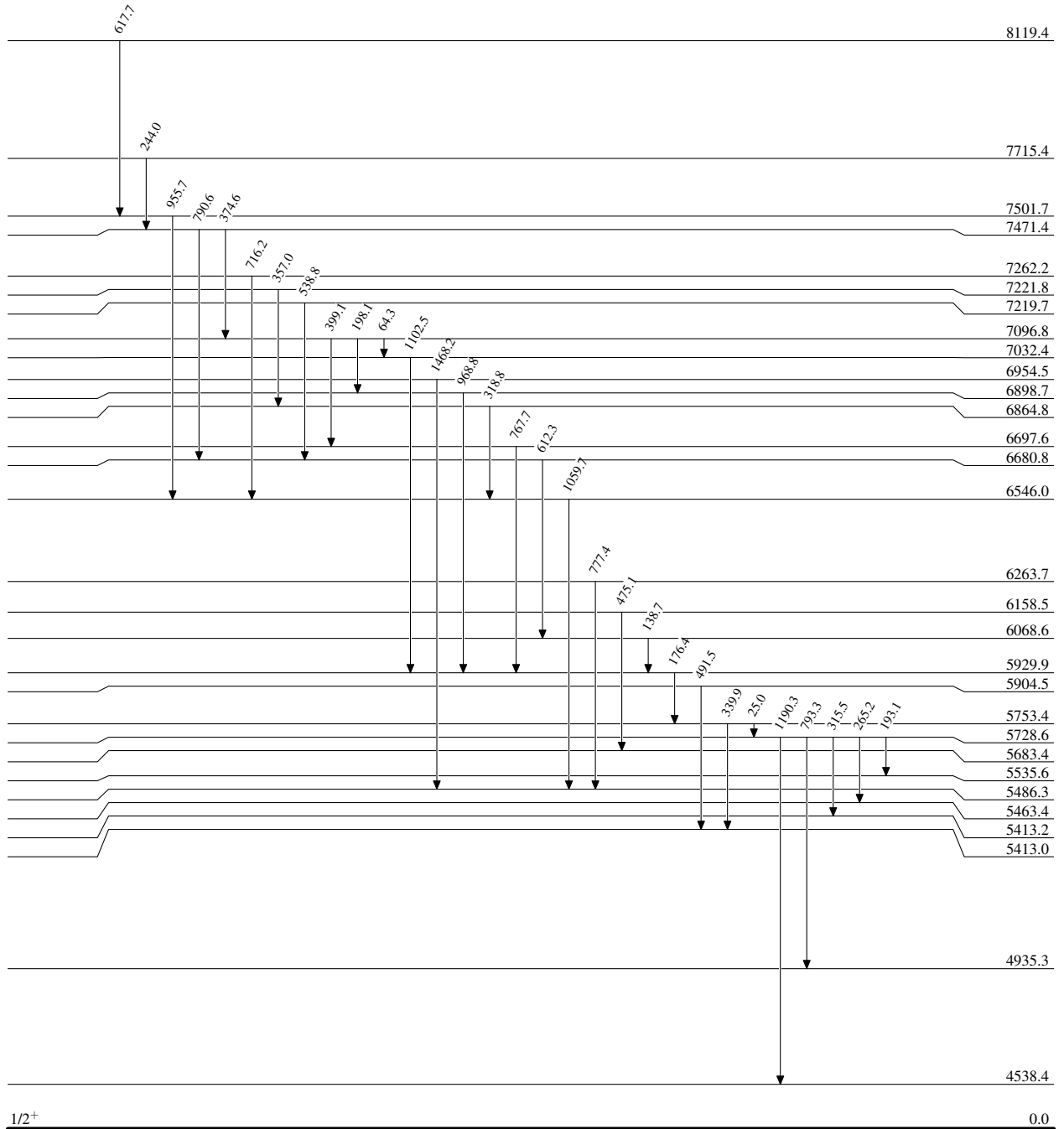
$^{110}\text{Pd}(^{40}\text{Ar},5\text{n}\gamma)$  1996Sc04

## Level Scheme

 $^{145}_{64}\text{Gd}_{81}$

$^{110}\text{Pd}(^{40}\text{Ar},5n\gamma)$  1996Sc04

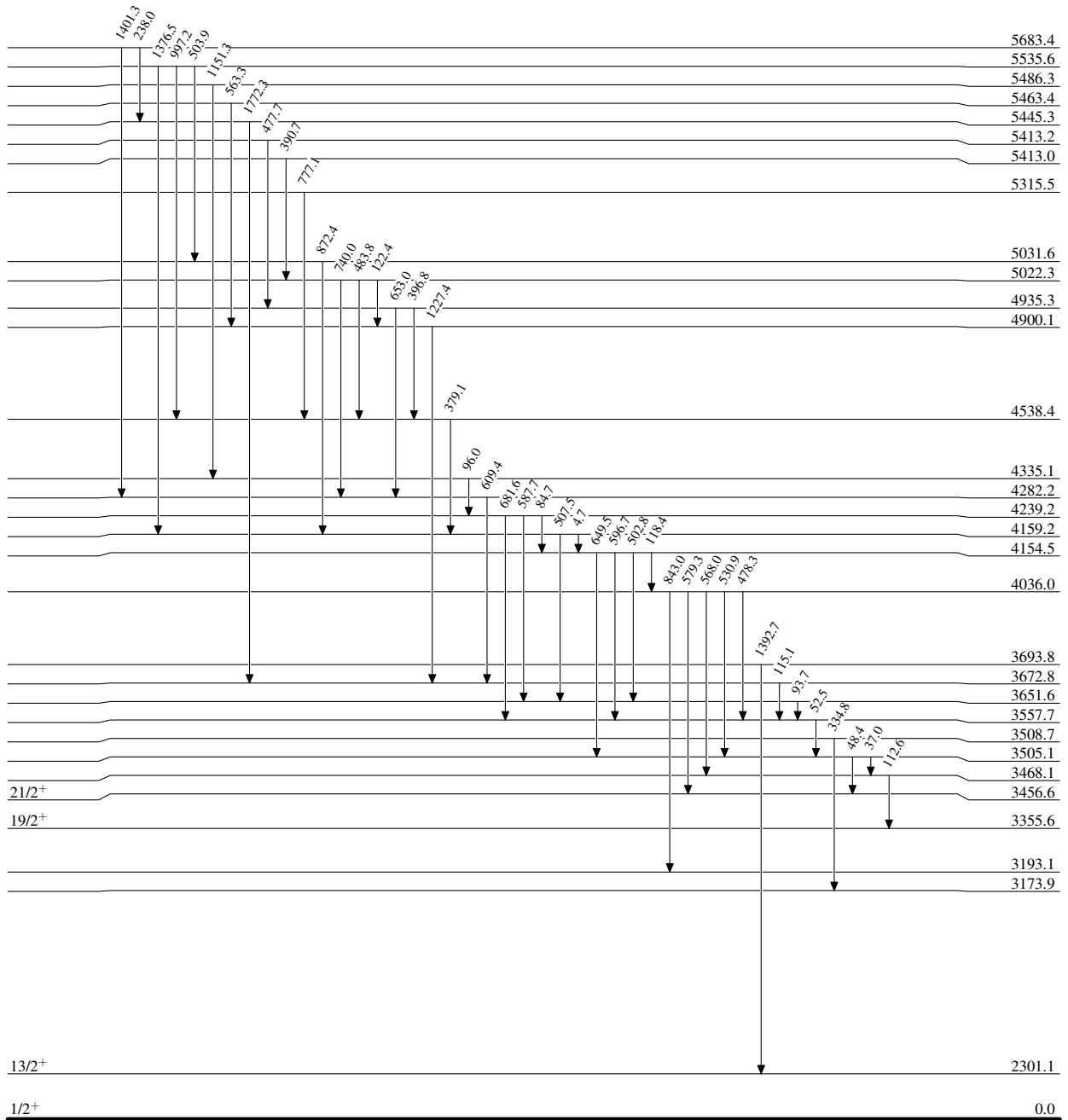
Level Scheme (continued)



$^{145}_{64}\text{Gd}_{81}$

$^{110}\text{Pd}(^{40}\text{Ar},5\text{n}\gamma)$  1996Sc04

Level Scheme (continued)



$^{145}_{64}\text{Gd}_{81}$

$^{110}\text{Pd}^{(40}\text{Ar},5\text{n}\gamma)$  1996Sc04

Level Scheme (continued)

