

$^{76}\text{Ge}(^{34}\text{S},5n\gamma)$  1995Je04

Type	Author	History	Citation	Literature Cutoff Date
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**1995Je04:** Facility: Niels Bohr Institute's Tandem accelerator; Beam:  $E(^{34}\text{S})=148$  MeV; Target: self-supporting 1.0 mg/cm<sup>2</sup> thick, enriched in  $^{76}\text{Ge}$ ; Detectors: Nordball comprising 19 HPGe and one LEPS detector with anti-Compton shields, Inner ball comprising 60 BaF<sub>2</sub> scintillators, and Si-ball; Measured: charged particles,  $\gamma$ - $\gamma$  coinc.,  $\gamma$ - $\gamma(\theta)$ ,  $E\gamma$ ,  $I\gamma$ ; Deduced:  $^{105}\text{Cd}$  level scheme,  $J^\pi$ , band structure.

 $^{105}\text{Cd}$  Levels

E(level) <sup>†</sup>	$J^\pi$ <sup>‡</sup>	Comments
0.0	5/2 <sup>+</sup>	
131.3 7	7/2 <sup>+</sup>	
260.1 8	(7/2) <sup>+</sup>	
604.0 8	(7/2) <sup>+</sup>	
770.2 7	9/2 <sup>+</sup>	
831.7 7	9/2 <sup>+</sup>	
1162.2 <sup>#</sup> 9	(11/2) <sup>-</sup>	configuration: $\nu h_{11/2}$ .
1701.5 <sup>#</sup> 14	(15/2) <sup>-</sup>	
2487.4 <sup>#</sup> 17	(19/2) <sup>-</sup>	
3342.1 <sup>#</sup> 20	(23/2) <sup>-</sup>	
4246.6 <sup>#</sup> 22	(27/2) <sup>-</sup>	
5224.2 <sup>@</sup> 24	(29/2) <sup>-</sup>	
5290.3 <sup>#</sup> 24	(31/2) <sup>-</sup>	
5757.1 24	(29/2) <sup>-</sup>	
6302 <sup>@</sup> 3	(33/2) <sup>-</sup>	
6470 <sup>#</sup> 3	(35/2) <sup>-</sup>	
6644 3		
7535 <sup>@</sup> 3	(37/2) <sup>-</sup>	
7800 <sup>#</sup> 3	(39/2) <sup>-</sup>	
8979 <sup>@</sup> 3	(41/2) <sup>-</sup>	
9266 <sup>#</sup> 3	(43/2) <sup>-</sup>	
10850 <sup>#</sup> 4	(47/2) <sup>-</sup>	

<sup>†</sup> From a least-squares fit to  $E\gamma$ .

<sup>‡</sup> From the Adopted Levels.

<sup>#</sup> Member of  $\Delta J=2$  band, based on 11/2<sup>-</sup>.

<sup>@</sup> Member of  $\Delta J=2$  band, based on 29/2<sup>-</sup>.

 $\gamma(^{105}\text{Cd})$ 

$E_\gamma$ <sup>†</sup>	$I_\gamma$ <sup>†</sup>	$E_i(\text{level})$	$J^\pi_i$	$E_f$	$J^\pi_f$	Mult. <sup>‡</sup>	Comments
131.2	20.6 8	131.3	7/2 <sup>+</sup>	0.0	5/2 <sup>+</sup>		
227.8	6.0 4	831.7	9/2 <sup>+</sup>	604.0	(7/2) <sup>+</sup>		
260.2	12.8 2	260.1	(7/2) <sup>+</sup>	0.0	5/2 <sup>+</sup>		
330.5	48.3 7	1162.2	(11/2) <sup>-</sup>	831.7	9/2 <sup>+</sup>	E1(+M2)	Mult.: $R_{\text{DCO}}=0.71$ 4 (1995Je04).
392.0	48.6 9	1162.2	(11/2) <sup>-</sup>	770.2	9/2 <sup>+</sup>	E1(+M2)	Mult.: $R_{\text{DCO}}=0.68$ 3 (1995Je04).
510.2	10.4 6	770.2	9/2 <sup>+</sup>	260.1	(7/2) <sup>+</sup>		
539.3	100	1701.5	(15/2) <sup>-</sup>	1162.2	(11/2) <sup>-</sup>	E2	Mult.: $R_{\text{DCO}}=0.98$ 4 (1995Je04).

Continued on next page (footnotes at end of table)

$^{76}\text{Ge}(^{34}\text{S},5n\gamma)$  **1995Je04** (continued) $\gamma(^{105}\text{Cd})$  (continued)

$E_\gamma$ <sup>†</sup>	$I_\gamma$ <sup>†</sup>	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult. <sup>‡</sup>	Comments
604.0	5.9 11	604.0	(7/2) <sup>+</sup>	0.0	5/2 <sup>+</sup>		
639.0	27.3 15	770.2	9/2 <sup>+</sup>	131.3	7/2 <sup>+</sup>		
700.4	7.7 10	831.7	9/2 <sup>+</sup>	131.3	7/2 <sup>+</sup>		
770.1	9.7 3	770.2	9/2 <sup>+</sup>	0.0	5/2 <sup>+</sup>		
785.9		2487.4	(19/2) <sup>-</sup>	1701.5	(15/2) <sup>-</sup>	E2	Mult.: $R_{\text{DCO}}=1.09$ 5 (1995Je04).
831.8	35.4 12	831.7	9/2 <sup>+</sup>	0.0	5/2 <sup>+</sup>		
854.7	82.4 17	3342.1	(23/2) <sup>-</sup>	2487.4	(19/2) <sup>-</sup>	E2	Mult.: $R_{\text{DCO}}=0.98$ 6 (1995Je04).
904.5	67.3 15	4246.6	(27/2) <sup>-</sup>	3342.1	(23/2) <sup>-</sup>	E2	Mult.: $R_{\text{DCO}}=1.06$ 11 (1995Je04).
977.5	19.8 10	5224.2	(29/2) <sup>-</sup>	4246.6	(27/2) <sup>-</sup>	M1	Mult.: E1 in 1995Je04, based on $R_{\text{DCO}}=0.52$ 12.
1043.6	42.4 13	5290.3	(31/2) <sup>-</sup>	4246.6	(27/2) <sup>-</sup>	E2	Mult.: $R_{\text{DCO}}=1.12$ 16 (1995Je04).
1078.2	18.2 25	6302	(33/2) <sup>-</sup>	5224.2	(29/2) <sup>-</sup>	E2	Mult.: $R_{\text{DCO}}=1.09$ 25 (1995Je04).
1179.4	27.7 15	6470	(35/2) <sup>-</sup>	5290.3	(31/2) <sup>-</sup>	E2	Mult.: $R_{\text{DCO}}=1.11$ 23 (1995Je04).
1232.9	12.6 21	7535	(37/2) <sup>-</sup>	6302	(33/2) <sup>-</sup>		
1330.0	10.2 14	7800	(39/2) <sup>-</sup>	6470	(35/2) <sup>-</sup>		
1354.1	10.2 14	6644		5290.3	(31/2) <sup>-</sup>		
1443.3	7.9 9	8979	(41/2) <sup>-</sup>	7535	(37/2) <sup>-</sup>		
1465.9	5.3 7	9266	(43/2) <sup>-</sup>	7800	(39/2) <sup>-</sup>		
1510.4	6.7 9	5757.1	(29/2) <sup>-</sup>	4246.6	(27/2) <sup>-</sup>	E2	Mult.: $R_{\text{DCO}}=0.91$ 30 (1995Je04).
1584.0	3.0 6	10850	(47/2) <sup>-</sup>	9266	(43/2) <sup>-</sup>		

<sup>†</sup> From 1995Je04.

<sup>‡</sup> From 1995Je04, based on DCO measurements.  $R_{\text{DCO}}=1$  for stretched E2 and 0.6 for stretched M1 transitions. For  $\Delta J=0$ ,  $0.48 \leq R_{\text{DCO}} \leq 1.10$ .

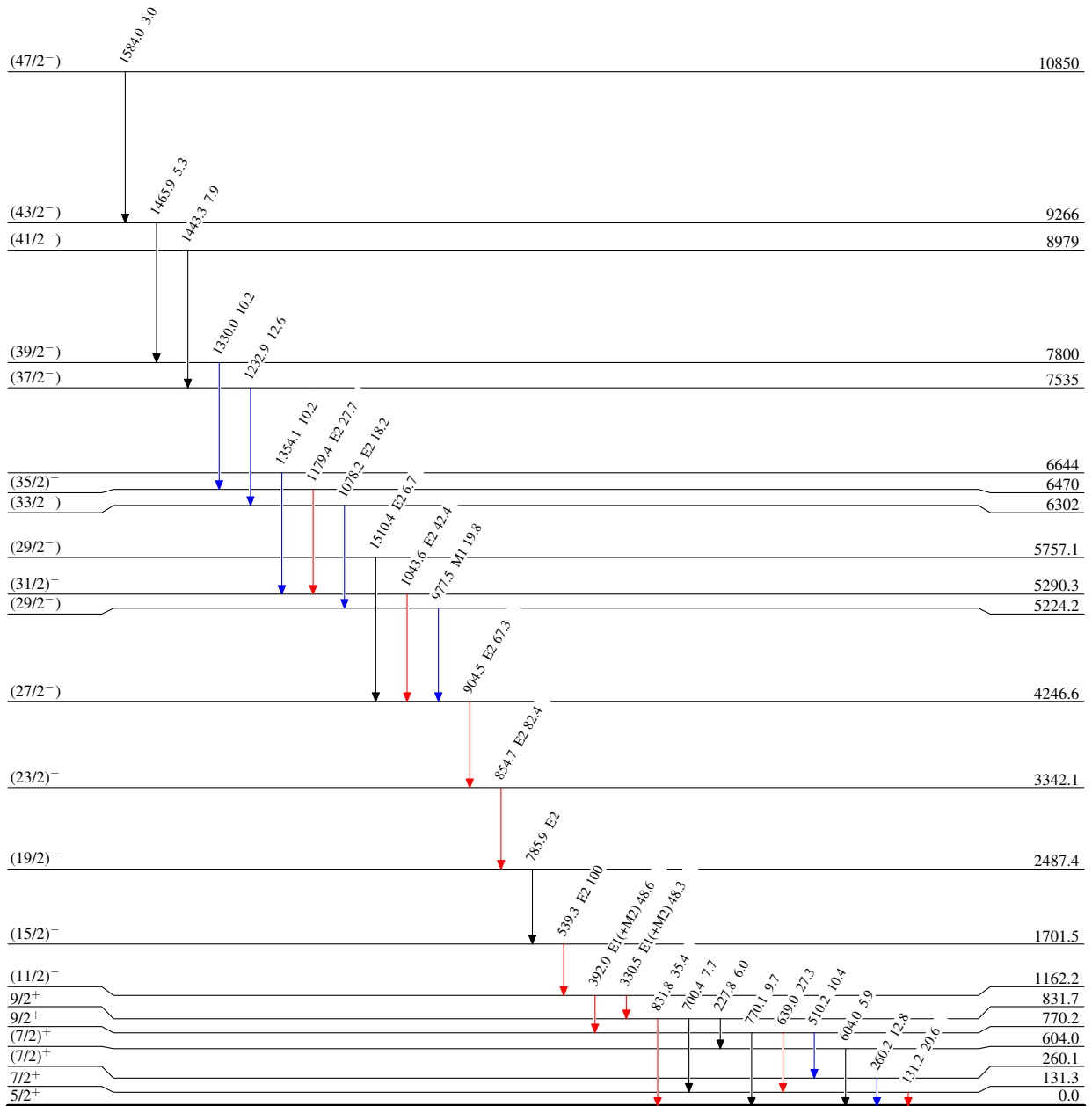
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Level Scheme

Intensities: Type not specified

Legend

- $I_\gamma < 2\% \times I_\gamma^{\max}$
- $I_\gamma < 10\% \times I_\gamma^{\max}$
- $I_\gamma > 10\% \times I_\gamma^{\max}$



$^{105}_{48}\text{Cd}_{57}$