

<sup>58</sup>Ni(<sup>40</sup>Ca,2pn $\gamma$ ): set 2 [2003Ma24,2004DoZZ](#)

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	S. K. Basu, G. Mukherjee, A. A. Sonzogni		NDS 111, 2555 (2010)	30-Jun-2009

E=135 MeV. Measured E $\gamma$ , I $\gamma$ ,  $\gamma\gamma$ , using the GASP detector array comprising of 40 Compton-suppressed HPGe detectors in conjunction with an 80 element BGO inner ball where the six elements of the most forward ring were replaced by the n-ring detector consisting of six BC501 $\alpha$  liquid scintillator detectors. The ISIS Si ball, a 40-element  $\Delta$ E-E telescope array, was also used.  
[2004DoZZ](#): E=3.94 MeV/nucleon, measured  $\gamma\gamma$ ,  $\beta\gamma$ . Observed low-lying levels, the  $\gamma$  decay of the 13-second isomer is reported in the IT decay dataset, the level at 2571 keV is included in this dataset.

<sup>95</sup>Pd Levels

E(level) <sup>†</sup>	J $\pi$ <sup>‡</sup>	T <sub>1/2</sub>	Comments
0 <sup>@</sup>	9/2 <sup>+</sup>		
1262.0 8	11/2 <sup>+</sup>		
1351.2 <sup>@</sup> 7	13/2 <sup>+</sup>		
1875.6 <sup>&amp;</sup> 20	21/2 <sup>+</sup>	13.3 s 3	T <sub>1/2</sub> : from Adopted Levels.
1878.7 <sup>@</sup> 11	17/2 <sup>+</sup>		
1973.3 11	15/2 <sup>+</sup>		
2201.8 12	(17/2 <sup>-</sup> )		
2566.8 20	23/2 <sup>+</sup>		
2571.1 <sup>#</sup> 8			
2677.9 <sup>a</sup> 16	(19/2 <sup>-</sup> )		
2696.9 <sup>&amp;</sup> 20	25/2 <sup>+</sup>		
3607.2 18	(21/2 <sup>-</sup> )		
3904.5 <sup>a</sup> 18	(23/2 <sup>-</sup> )		
4071.6 <sup>&amp;</sup> 22	29/2 <sup>+</sup>		
4077.0 20	27/2 <sup>+</sup>		
4332.4 22	31/2 <sup>-</sup>		
4362.6 <sup>a</sup> 20	(27/2 <sup>-</sup> )		
4396.0 20	(25/2 <sup>-</sup> )		
4752.5 <sup>&amp;</sup> 24	33/2 <sup>+</sup>		
4894.2 23	(29/2 <sup>-</sup> )		
4961.3 24	31/2 <sup>+</sup>		

<sup>†</sup> From least-squares fit to E $\gamma$ 's assuming  $\Delta$ E $\gamma$  = 1 keV.

<sup>‡</sup> From systematics and shell model calculations, as given in [1994Ar33](#) and [2003Ma24](#).

<sup>#</sup> Reported only by [2004DoZZ](#).

<sup>@</sup> Band(A): Yrast structure.

<sup>&</sup> Band(B): structure based on 21/2<sup>+</sup> isomer.

<sup>a</sup> Band(C): sequence based on (19/2<sup>-</sup>).

$\gamma$ (<sup>95</sup>Pd)

E $\gamma$	E <sub>i</sub> (level)	J $\pi$ <sub>i</sub>	E <sub>f</sub>	J $\pi$ <sub>f</sub>	E $\gamma$	E <sub>i</sub> (level)	J $\pi$ <sub>i</sub>	E <sub>f</sub>	J $\pi$ <sub>f</sub>
89.3	1351.2	13/2 <sup>+</sup>	1262.0	11/2 <sup>+</sup>	323.1	2201.8	(17/2 <sup>-</sup> )	1878.7	17/2 <sup>+</sup>
130.1 <sup>‡</sup>	2696.9	25/2 <sup>+</sup>	2566.8	23/2 <sup>+</sup>	458.2	4362.6	(27/2 <sup>-</sup> )	3904.5	(23/2 <sup>-</sup> )
228.5	2201.8	(17/2 <sup>-</sup> )	1973.3	15/2 <sup>+</sup>	476.1	2677.9	(19/2 <sup>-</sup> )	2201.8	(17/2 <sup>-</sup> )
260.9 <sup>‡</sup>	4332.4	31/2 <sup>-</sup>	4071.6	29/2 <sup>+</sup>	491.5	4396.0	(25/2 <sup>-</sup> )	3904.5	(23/2 <sup>-</sup> )
285.6	4362.6	(27/2 <sup>-</sup> )	4077.0	27/2 <sup>+</sup>	498.2	4894.2	(29/2 <sup>-</sup> )	4396.0	(25/2 <sup>-</sup> )
297.2	3904.5	(23/2 <sup>-</sup> )	3607.2	(21/2 <sup>-</sup> )	527.5	1878.7	17/2 <sup>+</sup>	1351.2	13/2 <sup>+</sup>

Continued on next page (footnotes at end of table)

$^{58}\text{Ni}(^{40}\text{Ca},2\text{pn}\gamma)$ : set 2 **2003Ma24,2004DoZZ** (continued) $\gamma(^{95}\text{Pd})$  (continued)

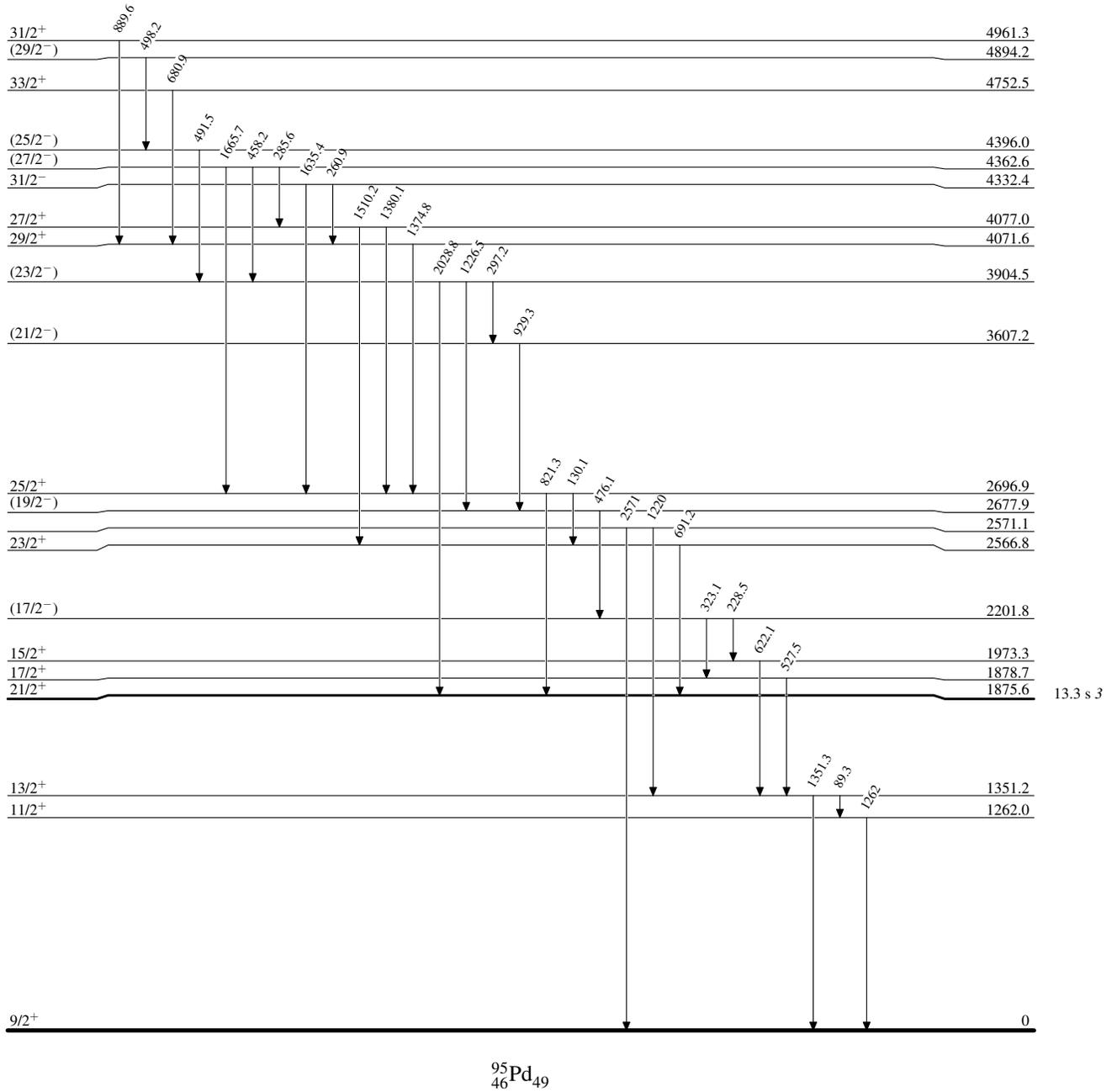
$E_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	$E_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$
622.1	1973.3	15/2 <sup>+</sup>	1351.2	13/2 <sup>+</sup>	1351.3	1351.2	13/2 <sup>+</sup>	0	9/2 <sup>+</sup>
680.9 <sup>‡</sup>	4752.5	33/2 <sup>+</sup>	4071.6	29/2 <sup>+</sup>	1374.8 <sup>‡</sup>	4071.6	29/2 <sup>+</sup>	2696.9	25/2 <sup>+</sup>
691.2 <sup>‡</sup>	2566.8	23/2 <sup>+</sup>	1875.6	21/2 <sup>+</sup>	1380.1	4077.0	27/2 <sup>+</sup>	2696.9	25/2 <sup>+</sup>
821.3	2696.9	25/2 <sup>+</sup>	1875.6	21/2 <sup>+</sup>	1510.2	4077.0	27/2 <sup>+</sup>	2566.8	23/2 <sup>+</sup>
889.6	4961.3	31/2 <sup>+</sup>	4071.6	29/2 <sup>+</sup>	1635.4	4332.4	31/2 <sup>-</sup>	2696.9	25/2 <sup>+</sup>
929.3	3607.2	(21/2 <sup>-</sup> )	2677.9	(19/2 <sup>-</sup> )	1665.7	4362.6	(27/2 <sup>-</sup> )	2696.9	25/2 <sup>+</sup>
1220 <sup>†</sup>	2571.1		1351.2	13/2 <sup>+</sup>	2028.8	3904.5	(23/2 <sup>-</sup> )	1875.6	21/2 <sup>+</sup>
1226.5	3904.5	(23/2 <sup>-</sup> )	2677.9	(19/2 <sup>-</sup> )	2571 <sup>†</sup>	2571.1		0	9/2 <sup>+</sup>
1262	1262.0	11/2 <sup>+</sup>	0	9/2 <sup>+</sup>					

<sup>†</sup> Reported only by [2004DoZZ](#).

<sup>‡</sup> Strong  $\gamma$  ray.

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Level Scheme



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