

<sup>58</sup>Ni(<sup>40</sup>Ca,2p2n $\gamma$ ) **2003Ma24**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	D. Abriola(a), A. A. Sonzogni		NDS 107, 2423 (2006)	1-Jan-2006

E=135 MeV, measured E $\gamma$ , I $\gamma$ ,  $\gamma\gamma$ , using the GASP detector array comprised of 40 Compton-suppressed Ge 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 liquid scintillator detectors. The ISIS Si ball, a 40-element  $\Delta$ E-E telescope array, was also used.

<sup>94</sup>Pd Levels

E(level) <sup>†</sup>	J $\pi$ <sup>#</sup>	T <sub>1/2</sub> <sup>@</sup>	E(level) <sup>†</sup>	J $\pi$ <sup>#</sup>	E(level) <sup>†</sup>	J $\pi$ <sup>#</sup>	T <sub>1/2</sub> <sup>@</sup>
0 <sup>‡</sup>	0 <sup>+</sup>	9.0 s 5	2538.0 16	(5 <sup>-</sup> )	3796.0 <sup>‡</sup> 21	10 <sup>+</sup>	
814.0 <sup>‡</sup> 10	2 <sup>+</sup>		2699.0 17	(6 <sup>+</sup> )	4663.0 23		
1720.0 <sup>‡</sup> 14	4 <sup>+</sup>		2704.0 <sup>‡</sup> 19	8 <sup>+</sup>	4790.0 <sup>‡</sup> 23	12 <sup>+</sup>	
2380.0 <sup>‡</sup> 16	6 <sup>+</sup>		3051.0 21	(8 <sup>+</sup> )	4886 <sup>‡</sup> 3	14 <sup>+</sup>	0.530 $\mu$ s 10

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

<sup>‡</sup> Band(A): yrast band.

<sup>#</sup> As given by **2003Ma24**, based on  $\gamma(\theta)$ , systematics of N=48 nuclei, and supported by shell model calculations.

<sup>@</sup> From Adopted Levels.

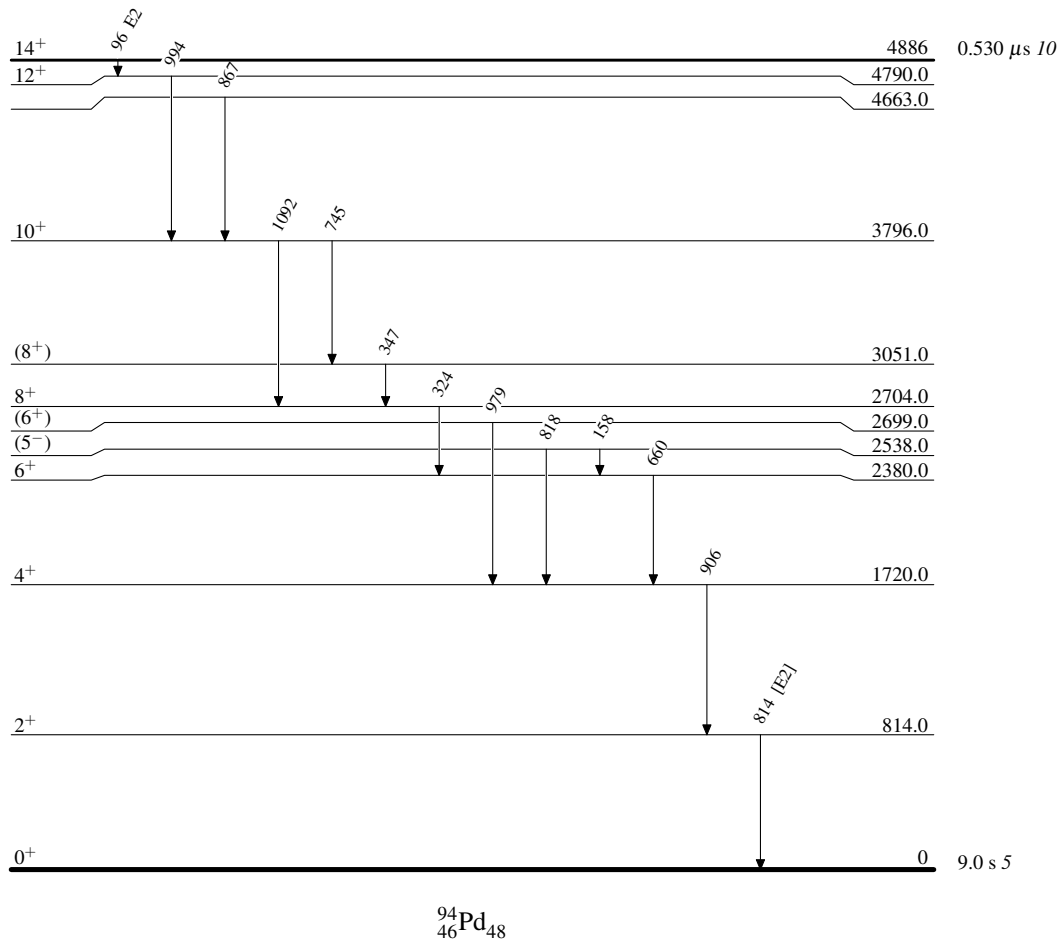
$\gamma$ (<sup>94</sup>Pd)

E $\gamma$	E <sub>i</sub> (level)	J $\pi$ <sub>i</sub>	E <sub>f</sub>	J $\pi$ <sub>f</sub>	Mult.	$\alpha$ <sup>†</sup>	Comments
96	4886	14 <sup>+</sup>	4790.0	12 <sup>+</sup>	E2	1.63	$\alpha$ (exp)=1.9 4 $\alpha$ =1.63; $\alpha$ (K)=1.25 4; $\alpha$ (L)=0.311 10; $\alpha$ (M)=0.0597 18; $\alpha$ (N+..)=0.0104 4 Mult.: from $\alpha$ (exp)=1.9 4, which was determined from intensity balance.
158	2538.0	(5 <sup>-</sup> )	2380.0	6 <sup>+</sup>			
324	2704.0	8 <sup>+</sup>	2380.0	6 <sup>+</sup>			
347	3051.0	(8 <sup>+</sup> )	2704.0	8 <sup>+</sup>			
660	2380.0	6 <sup>+</sup>	1720.0	4 <sup>+</sup>			
745	3796.0	10 <sup>+</sup>	3051.0	(8 <sup>+</sup> )			
814	814.0	2 <sup>+</sup>	0	0 <sup>+</sup>	[E2]		
818	2538.0	(5 <sup>-</sup> )	1720.0	4 <sup>+</sup>			
867	4663.0		3796.0	10 <sup>+</sup>			
906	1720.0	4 <sup>+</sup>	814.0	2 <sup>+</sup>			
979	2699.0	(6 <sup>+</sup> )	1720.0	4 <sup>+</sup>			
994	4790.0	12 <sup>+</sup>	3796.0	10 <sup>+</sup>			
1092	3796.0	10 <sup>+</sup>	2704.0	8 <sup>+</sup>			

<sup>†</sup> Total theoretical internal conversion coefficients, calculated using the BrIcc code (**2008Ki07**) with Frozen orbital approximation based on  $\gamma$ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

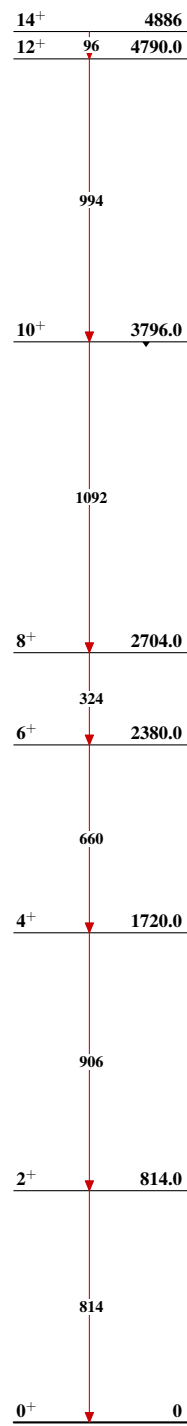
${}^{58}\text{Ni}({}^{40}\text{Ca}, 2\text{p}2\text{n}\gamma)$  2003Ma24

## Level Scheme



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Band(A): Yrast band

 ${}^{94}_{46}\text{Pd}_{48}$