^{92}Zr(^{12}C,3nγ) 1974Si02,1975Ki13,1980Po06

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	ENSDF	1-Jul-2006

E=45– 56 MeV (1974Si02,1975Ki13), E= 48 MeV (1980Po06).
Others: 1973Si07, 1973Ri10, 1976Sm06.
Measured Iγ, $\gamma(\theta)$, $\gamma\gamma$-coin, γ-ray linear pol, DCO(Q) (1980Po06).
Other reactions studied by 1974Si02: ^{99}Ru(α,2nγ) E=16– 24 MeV, ^{88}Sr(^{16}O,3nγ) E=56– 64 MeV.

^{101}Pd Levels

γ-placements are based on $\gamma\gamma$-coin, Iγ in cascade, excit.
1980Po06 compares results with a particle plus rotor model.

E(level)	J$^{\pi}$[†]	$T_{1/2}$	Comments
0.0[#]	5/2$^+$	8.47 h *6*	
260.96[@]	7/2$^+$		
587.97	7/2$^+$		
667.22[#]	9/2$^+$		
938.9[@]	11/2$^+$		
1265.4	11/2$^+$		
1337.4[‡]	11/2$^-$		E(level): 11/2$^-$ isomerism occurs at 785 keV in ^{103}Pd (25 ns) and at 489 keV in ^{105}Pd (36 μs).
1403.4[#]	13/2$^+$		
1816.6[@]	15/2$^+$		
1892.9[‡]	15/2$^-$		
2062.9	15/2$^+$		
2207.4[#]	17/2$^+$		
2246.	(13/2$^+$)		
2290	17/2		
2512	15/2$^-$		
2641.1[‡]	19/2$^-$		
2721[@]	19/2$^+$		
2864.5[#]	21/2$^+$		
2983	(17/2$^-$)		
3034.0	19/2$^+$		
3227.3	21/2$^+$		
3327.1	19/2$^-$		
3532.2[‡]	23/2$^-$		
3625[@]	(23/2)$^+$		
3812.0[#]	25/2$^+$		
4443.0[‡]	(27/2)$^-$		
4896.4[#]	(29/2)$^+$		
5414.5			
6488.2			

[†] From A_2, A_4 coef and γ-ray linear pol.
[‡] Band(A): ΔJ=2 sequence built on 11/2$^-$ state; 1974Si02 compare E(level) spacing with variable moment of inertia model calculation.
[#] Band(B): ΔJ=2 sequence built on 5/2$^+$ g.s.; 1974Si02 compare E(level) spacing with variable moment of inertia model

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^{92}Zr(^{12}C,3nγ) 1974Si02,1975Ki13,1980Po06 (continued)

^{101}Pd Levels (continued)

calculation.
[@] Band(C): ΔJ=2 sequence built on 7/2$^+$ state; 1974Si02 compare E(level) spacing with variable moment of inertia model calculation.

$\gamma(^{101}Pd)$

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[&]	Comments
170		3034.0	19/2$^+$	2864.5	21/2$^+$		
260.96[@] *5*	77 *5*	260.96	7/2$^+$	0.0	5/2$^+$	M1	A_2=− 0.217 *8*, A_4= 0.013 *10*. Mult.: −0.01≤δ≤+0.03.
271.67 *7*	2.2 *14*	938.9	11/2$^+$	667.22	9/2$^+$	D+Q	Mult.: +0.05≤δ≤+0.13.
327		587.97	7/2$^+$	260.96	7/2$^+$		I_γ: Iγ(327γ):Iγ(598γ)=25:75.
363		3227.3	21/2$^+$	2864.5	21/2$^+$		
390.90 *7*	2.4 *10*	2207.4	17/2$^+$	1816.6	15/2$^+$	D(+Q)	Mult.: −0.06≤δ≤0. A_2=− 0.28 *4*, A_4=− 0.14 *11*.
398.56 *7*	3.5 *13*	1337.4	11/2$^-$	938.9	11/2$^+$		
406.29[@] *5*	8.3 *15*	667.22	9/2$^+$	260.96	7/2$^+$	M1(+E2)	Mult.: 0≤δ≤+0.1. A_2=− 0.145 *19*, A_4= 0.06 *5*.
464.5 *2*	3.5 *14*	1403.4	13/2$^+$	938.9	11/2$^+$	D(+Q)	Mult.: −0.08≤δ≤0. A_2=− 0.05 *3*, A_4=− 0.06 *6*.
555.54[#] *10*	49 *4*	1892.9	15/2$^-$	1337.4	11/2$^-$	E2	A_2= 0.322 *10*, A_4=− 0.114 *13*.
588		587.97	7/2$^+$	0.0	5/2$^+$		I_γ: see 327γ.
598		1265.4	11/2$^+$	667.22	9/2$^+$		I_γ: Iγ(327γ):Iγ(598γ):Iγ(677)=7:36:57.
619		2512	15/2$^-$	1892.9	15/2$^-$		
657.07[#] *5*	31 *3*	2864.5	21/2$^+$	2207.4	17/2$^+$	E2	A_2= 0.343 *11*, A_4=− 0.121 *13*.
660		2062.9	15/2$^+$	1403.4	13/2$^+$		I_γ: Iγ(660γ):Iγ(797γ)=12:88.
667.22[#] *5*	100	667.22	9/2$^+$	0.0	5/2$^+$	E2	A_2= 0.309 *10*, A_4=− 0.091 *11*.
670.17[#] *5*	58 *5*	1337.4	11/2$^-$	667.22	9/2$^+$	E1	A_2= 0.32 *3*, A_4=− 0.05 *5*. A_2=− 0.228 *10*, A_4= 0.008 *9*.
677		1265.4	11/2$^+$	587.97	7/2$^+$		I_γ: see 598γ.
677.93[#] *5*	45 *5*	938.9	11/2$^+$	260.96	7/2$^+$	E2	A_2= 0.309 *10*, A_4=− 0.091 *11*.
686		3327.1	19/2$^-$	2641.1	19/2$^-$		
[x]736.2	≈20						I_γ: From $\gamma\gamma$. Iγ=61 in singles.
736.2[#] *2*	41 *4*	1403.4	13/2$^+$	667.22	9/2$^+$	E2	A_2= 0.319 *9*, A_4=− 0.099 *11*.
748.2[#] *2*	36 *4*	2641.1	19/2$^-$	1892.9	15/2$^-$	E2	A_2= 0.346 *10*, A_4=− 0.126 *13*.
797		2062.9	15/2$^+$	1265.4	11/2$^+$		I_γ: see 660γ.
804.02[#] *5*	38 *3*	2207.4	17/2$^+$	1403.4	13/2$^+$	E2	A_2= 0.331 *10*, A_4=− 0.102 *11*.
877.67[#] *5*	29 *3*	1816.6	15/2$^+$	938.9	11/2$^+$	E2	A_2= 0.304 *13*, A_4=− 0.091 *14*.
887		2290	17/2	1403.4	13/2$^+$		
891.04[#] *10*	22 *2*	3532.2	23/2$^-$	2641.1	19/2$^-$	E2	A_2= 0.312 *16*, A_4=− 0.145 *25*.
904.4[a#] *10*	19[a] *5*	2721	19/2$^+$	1816.6	15/2$^+$	E2	A_2= 0.278 *13*, A_4=− 0.109 *17*.
904.4[a#] *10*	19[a] *5*	3625	(23/2)$^+$	2721	19/2$^+$	E2	
908		2246.	(13/2$^+$)	1337.4	11/2$^-$		
910.78 *10*	15 *2*	4443.0	(27/2)$^-$	3532.2	23/2$^-$	(E2)	A_2= 0.220 *24*, A_4=− 0.13 *3*.
947.47[#] *5*	22 *3*	3812.0	25/2$^+$	2864.5	21/2$^+$	E2	A_2= 0.295 *14*, A_4=− 0.054 *27*.
971.56 *10*	9.0 *15*	5414.5		4443.0	(27/2)$^-$		
1020		3227.3	21/2$^+$	2207.4	17/2$^+$		
1073.7 *5*	3.5 *10*	6488.2		5414.5			
1084.4 *2*	5 *1*	4896.4	(29/2)$^+$	3812.0	25/2$^+$	(E2)	A_2= 0.20 *4*, A_4=− 0.11 *7*.
1090		2983	(17/2$^-$)	1892.9	15/2$^-$		

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^{92}Zr(^{12}C,3nγ) 1974Si02,1975Ki13,1980Po06 (continued)

$\gamma(^{101}Pd)$ (continued)

† From 1974Si02 for values with uncertainties. Other values are from 1980Po06 and are reported only by them.
‡ From 1974Si02 at 48 MeV. Authors give intensities from (α,2nγ) at 25 MeV and from (^{16}O,3nγ) at 56 MeV. Values from 1980Po06 given as branchings in footnotes are assumed by the evaluator to have uncertainties of 10% As in the earlier work (1974Si02).
# Measured γ-ray linear pol is positive.
@ Measured γ-ray linear pol is negative.
& Deduced from both $\gamma(\theta)$ and γ-ray linear pol (1975Ki13).
a Multiply placed with undivided intensity.
x γ ray not placed in level scheme.

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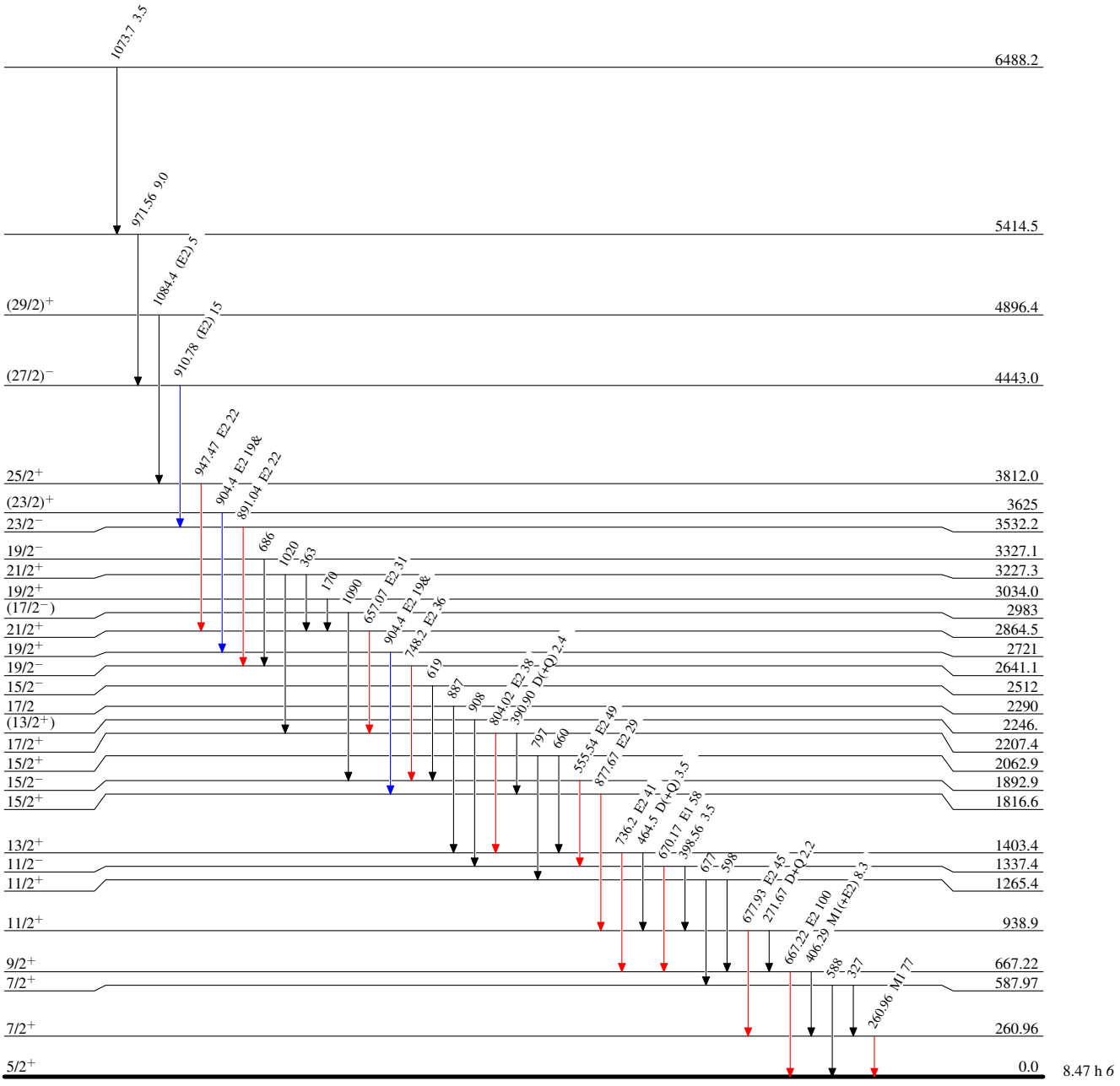
Level Scheme

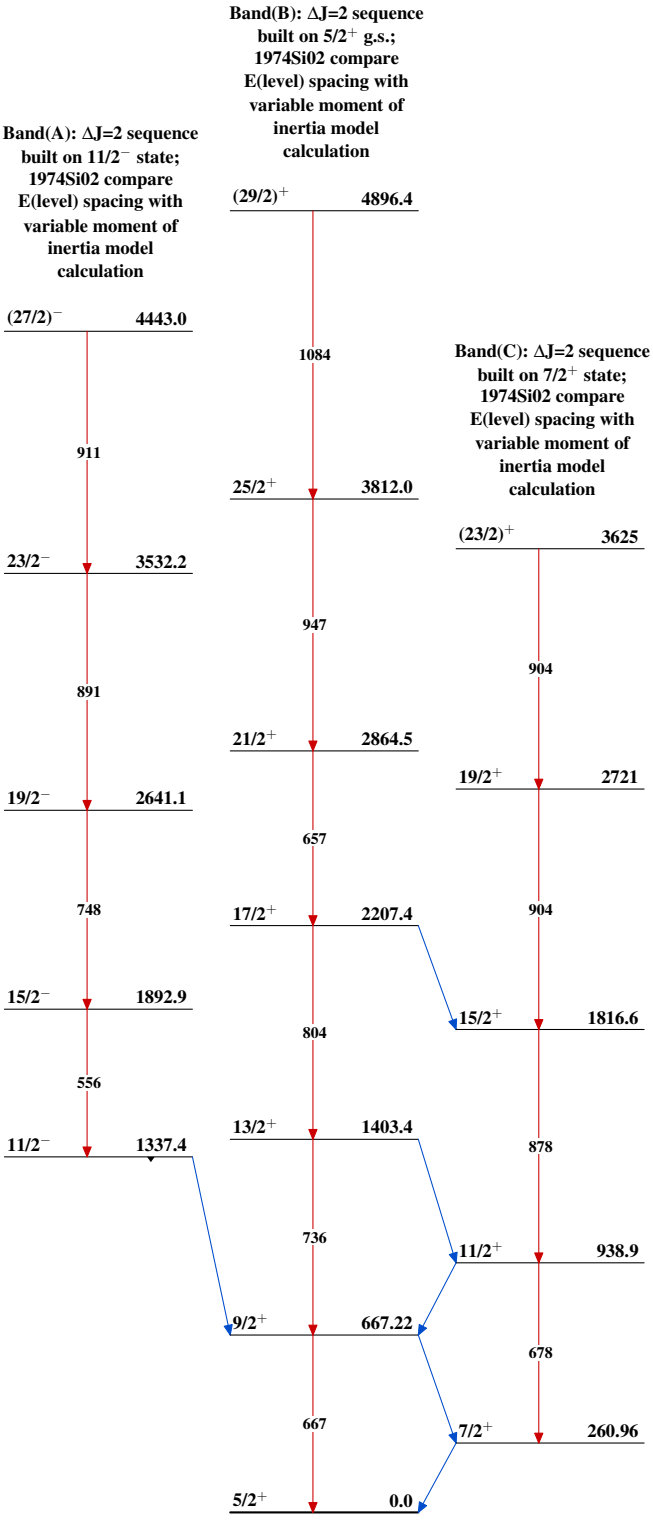
Intensities: Relative I_γ
& Multiply placed: undivided intensity given

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



$^{101}_{46}Pd_{55}$

$^{92}Zr(^{12}C,3n\gamma)$ 1974Si02,1975Ki13,1980Po06



$^{101}_{46}Pd_{55}$