^{58}Ni(^{40}Ca,αnγ) 2004Ru02

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 112, 1163 (2011)	15-Dec-2010

E=135 MeV; GASP spectrometer in configuration I (40 Compton-suppressed Ge detectors; inner ball of 80 BGO crystals acts As multiplicity filter and active collimator); n-ring detector for neutrons, and ISIS Si ball (40 Si E-ΔE telescopes) for charged-particle detection; measured Eγ, Iγ, $\gamma\gamma$ coin, DCO ratios.

^{93}Pd Levels

E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡
0.0#	(9/2$^+$)	2232.2 *5*	(17/2$^+$)	3385.4? *12*		5647.8# *12*	(37/2$^+$)
983.5# *3*	(13/2$^+$)	2428.5 *6*	(19/2$^+$)	3734.4? *13*		6993.8 *13*	(39/2$^+$)
1870.8 *5*	(15/2$^+$)	2595.5# *6*	(21/2$^+$)	3862.1# *10*	(29/2$^+$)	7279.7# *13*	(41/2$^+$)
2079.3# *5*	(17/2$^+$)	2870.9# *7*	(25/2$^+$)	4994.4# *11*	(33/2$^+$)	7661.8# *14*	(45/2$^+$)

† From least-squares fit to Eγ.
‡ Authors′ proposed values based on DCO ratio data and comparison with shell-model predictions and structure of isotones ^{87}Zr, ^{89}Mo and ^{91}Ru.
# Band(A): π=+ ΔJ=2 yrast sequence. For detailed shell-model configurations, see table III and figure 4 of 2004Ru02.

γ(^{93}Pd)

E$_\gamma$	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.†	Comments
152.8 *3*	4 *1*	2232.2	(17/2$^+$)	2079.3	(17/2$^+$)		
167.0 *3*	43 *3*	2595.5	(21/2$^+$)	2428.5	(19/2$^+$)	(D)	DCO=0.54 *12* (275γ In gate).
196.3 *3*	10 *2*	2428.5	(19/2$^+$)	2232.2	(17/2$^+$)	(D)	DCO=0.35 *22* (275γ+984γ In gate).
208.4 *3*	11 *2*	2079.3	(17/2$^+$)	1870.8	(15/2$^+$)		
275.4 *3*	51 *2*	2870.9	(25/2$^+$)	2595.5	(21/2$^+$)		Mult.: DCO=1.03 *13* (984γ+1096γ In gate) suggests Q multipolarity, but DCO is also consistent with a D+Q assignment. It is also possible that γ is a doublet, as suggested in ^{94}Ag p decay (0.39 s).
286.0 *5*	5 *2*	7279.7	(41/2$^+$)	6993.8	(39/2$^+$)		
349.0‡ *5*	7 *2*	3734.4?		3385.4?			
349.3 *3*	56 *3*	2428.5	(19/2$^+$)	2079.3	(17/2$^+$)	(D)	DCO=0.58 *10* (275γ In gate).
361.5 *3*	16 *2*	2232.2	(17/2$^+$)	1870.8	(15/2$^+$)	(D)	DCO=0.47 *25* (275γ+984γ In gate).
382.1 *4*	8 *2*	7661.8	(45/2$^+$)	7279.7	(41/2$^+$)		
514.5‡ *10*	11 *4*	3385.4?		2870.9	(25/2$^+$)	(D)	DCO=0.50 *21* (275γ+984γ+1096γ In gate).
516.3 *5*	25 *7*	2595.5	(21/2$^+$)	2079.3	(17/2$^+$)	(Q)	DCO=1.2 *4* (275γ+984γ+1096γ In gate).
653.4 *4*	29 *3*	5647.8	(37/2$^+$)	4994.4	(33/2$^+$)	(Q)	DCO=1.22 *24* (275γ+984γ+1096γ In gate).
887.3 *5*	23 *3*	1870.8	(15/2$^+$)	983.5	(13/2$^+$)	(D)	DCO=0.34 *14* (275γ+984γ In gate).
983.5 *3*	100 *9*	983.5	(13/2$^+$)	0.0	(9/2$^+$)	(Q)	DCO=0.95 *21* (275γ In gate).
991.2 *7*	42 *7*	3862.1	(29/2$^+$)	2870.9	(25/2$^+$)	(Q)	DCO=0.92 *12* (275γ+984γ+1096γ In gate).
1095.7 *5*	86 *9*	2079.3	(17/2$^+$)	983.5	(13/2$^+$)	(Q)	DCO=0.94 *16* (275γ In gate).
1132.3 *5*	32 *3*	4994.4	(33/2$^+$)	3862.1	(29/2$^+$)	(Q)	DCO=0.93 *13* (275γ+984γ+1096γ In gate).
1346.0 *5*	7 *2*	6993.8	(39/2$^+$)	5647.8	(37/2$^+$)		
1631.6 *10*	10 *2*	7279.7	(41/2$^+$)	5647.8	(37/2$^+$)	(Q)	DCO=1.1 *4* (275γ+984γ+1096γ In gate).

† DCO ratios correspond to gates on single ΔJ=2 or summed ΔJ=2 transitions; θ_1=72°, 90° or 108°, θ_2=35° or 145°. Based on measurements for transitions of known multipolarity, expected values are 1.0 for ΔJ=2 transitions and 0.5 for pure ΔJ=1 transitions. authors′ assignments are shown.
‡ Placement of transition in the level scheme is uncertain.

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Level Scheme

Intensities: Relative I_γ

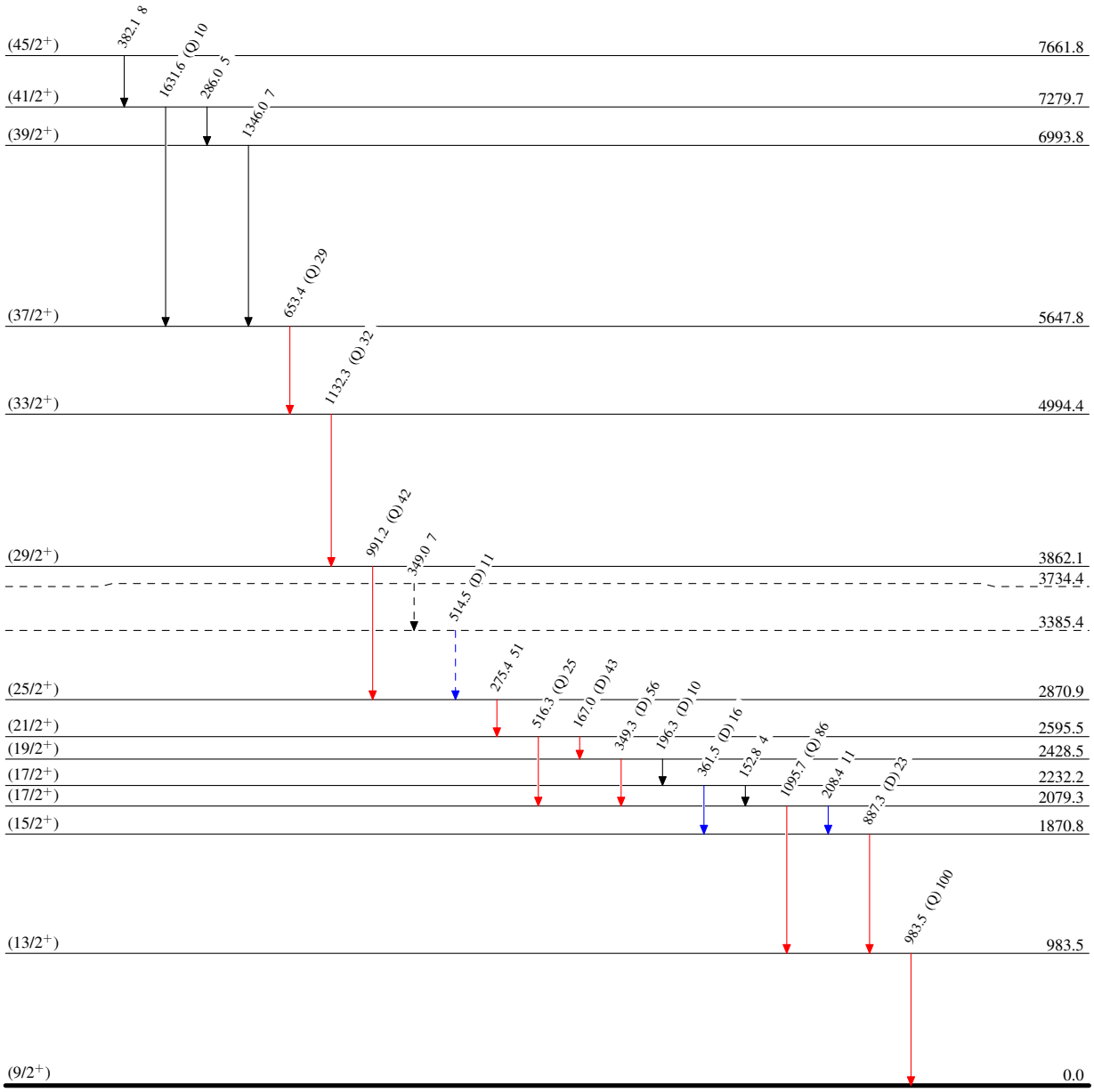
Legend

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

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

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

γ Decay (Uncertain)



$^{93}_{46}Pd_{47}$

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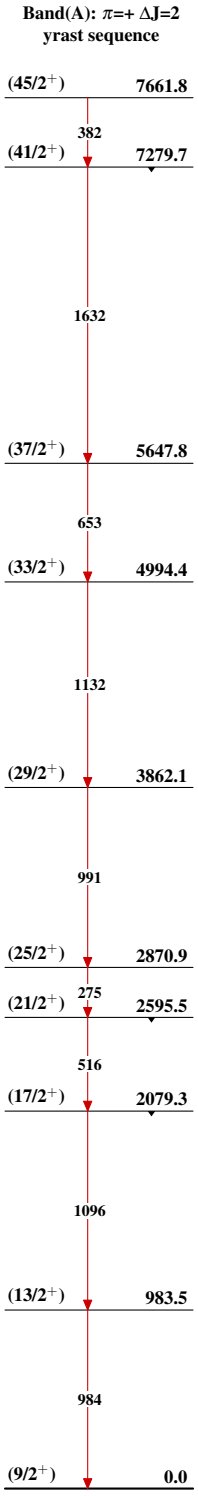

$^{93}_{46}Pd_{47}$