^{65}Cu(^{36}S,4nγ) 1998Gh07

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 111, 525 (2010)	19-Nov-2009

1998Gh07: E= 142 MeV. Measured Eγ, Iγ, $\gamma\gamma(\theta)$(DCO) using GAMMASPHERE array with 36 Ge detectors.

^{97}Rh Levels

E(level)[†]	J$^\pi$[‡]	E(level)[†]	J$^\pi$[‡]	E(level)[†]	J$^\pi$[‡]	E(level)[†]	J$^\pi$[‡]
0.0[#]	9/2$^+$	3554.5[#] *7*	25/2$^+$	6478.3 *11*	(33/2$^-$)	8008.2 *14*	
858.4[#] *4*	13/2$^+$	4019.2[#] *7*	27/2$^+$	6507.1 *10*		8288.2 *14*	(39/2$^+$)
1465.1[#] *5*	15/2$^+$	4078.6[@] *8*	(25/2$^-$)	6780.2[#] *9*	(37/2$^+$)	8370.2 *14*	(39/2$^+$)
1554.1[#] *5*	17/2$^+$	4279.6[#] *7*	29/2$^+$	6917.8 *13*	(35/2$^+$)	8497.3[@] *12*	(37/2$^-$)
1963.5[#] *6*	19/2$^+$	4828.9 *8*	31/2$^+$	6978.9 *9*		8600.2 *14*	(39/2$^+$)
2227.1[@] *6*	17/2$^-$	5164.6[@] *9*	(29/2$^-$)	7084.9 *13*	(35/2$^+$)	9083.2 *15*	
2619.3[#] *6*	21/2$^+$	5521.9[#] *9*	(33/2$^+$)	7332.2 *11*		9209.3 *15*	
3058.4[@] *7*	(21/2$^-$)	5969.6 *13*	(31/2$^+$)	7589.9 *13*		9247.3 *15*	
3097.5 *7*	(21/2$^+$)	5979.6[@] *10*	(31/2$^-$)	7692.9 *13*			
3261.5[#] *7*	23/2$^+$	6196.1 *9*	(35/2$^+$)	7704.3[@] *11*	(35/2$^-$)		
3349.1[@] *8*	(23/2$^-$)	6446.4[@] *11*	(33/2$^-$)	7960.2 *10*	(39/2$^+$)		

[†] From least squares fit to Eγ's.
[‡] ADOPTED by 1998Gh07 (can differ from Adopted Levels).
[#] Band(A): yrast sequence.
[@] Band(B): γ-sequence.

γ(^{97}Rh)

E$_\gamma$	I$_\gamma$[†]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.[‡]	Comments
89.0 *4*	10 *1*	1554.1	17/2$^+$	1465.1	15/2$^+$	D(+Q)	DCO=1.6 *4*
164.0 *4*	3.9[#] *5*	3261.5	23/2$^+$	3097.5	(21/2$^+$)		
260.3 *4*	20 *2*	4279.6	29/2$^+$	4019.2	27/2$^+$	D(+Q)	DCO=1.5 *3*
290.7 *4*	14.3[#] *10*	3349.1	(23/2$^-$)	3058.4	(21/2$^-$)	D(+Q)	DCO=1.6 *3*
293.0 *4*	16 *2*	3554.5	25/2$^+$	3261.5	23/2$^+$	D(+Q)	DCO=1.6 *2*
310.9 *4*	9.4[#] *15*	6507.1		6196.1	(35/2$^+$)		
409.4 *4*	61 *6*	1963.5	19/2$^+$	1554.1	17/2$^+$	D(+Q)	DCO=1.5 *2*
464.8 *4*	20 *2*	4019.2	27/2$^+$	3554.5	25/2$^+$	D(+Q)	DCO=1.5 *2*
466.8 *4*	7.2[#] *8*	6446.4	(33/2$^-$)	5979.6	(31/2$^-$)	D(+Q)	DCO=1.5 *3*
498.7 *4*	5.5[#] *10*	6478.3	(33/2$^-$)	5979.6	(31/2$^-$)	D(+Q)	DCO=1.6 *4*
606.7 *4*	30 *3*	1465.1	15/2$^+$	858.4	13/2$^+$	D(+Q)	DCO=1.6 *3*
642.2 *4*	10 *1*	3261.5	23/2$^+$	2619.3	21/2$^+$	D(+Q)	DCO=1.5 *2*
655.8 *4*	24 *3*	2619.3	21/2$^+$	1963.5	19/2$^+$	D(+Q)	DCO=1.6 *3*
672.9 *4*	5 *1*	2227.1	17/2$^-$	1554.1	17/2$^+$		
674.4[&] *4*	<1	6196.1	(35/2$^+$)	5521.9	(33/2$^+$)		
695.7 *4*	70 *7*	1554.1	17/2$^+$	858.4	13/2$^+$	(E2)	DCO=2.1 *3*
725.1 *4*	25 *3*	4279.6	29/2$^+$	3554.5	25/2$^+$	(E2)	DCO=2.0 *2*
729.5 *4*	7.2[#] *10*	4078.6	(25/2$^-$)	3349.1	(23/2$^-$)	D(+Q)	DCO=1.5 *2*
757.6 *4*	29 *3*	4019.2	27/2$^+$	3261.5	23/2$^+$	(E2)	DCO=2.0 *3*
762.0 *4*	20.2[#] *10*	2227.1	17/2$^-$	1465.1	15/2$^+$	D(+Q)	DCO=1.3 *2*
793.0 *4*	<1	8497.3	(37/2$^-$)	7704.3	(35/2$^-$)		

Continued on next page (footnotes at end of table)

^{65}Cu(^{36}S,4nγ) 1998Gh07 (continued)

γ(^{97}Rh) (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	Comments
809.7 *4*	28 *3*	4828.9	31/2$^+$	4019.2	27/2$^+$	(E2)	DCO=1.9 *2*
815.0 *4*	15.4[#] *10*	5979.6	(31/2$^-$)	5164.6	(29/2$^-$)	D(+Q)	DCO=1.5 *2*
825.1 *4*	3.0 *3*	7332.2		6507.1			
831.3 *4*	25 *3*	3058.4	(21/2$^-$)	2227.1	17/2$^-$	(E2)	DCO=1.9 *3*
858.4 *4*	100 *10*	858.4	13/2$^+$	0.0	9/2$^+$	(E2)	DCO=2.0 *3*
935.2 *4*	26 *3*	3554.5	25/2$^+$	2619.3	21/2$^+$	[@]	DCO=1.6 *3*
1020.2 *4*	7 *1*	4078.6	(25/2$^-$)	3058.4	(21/2$^-$)	(E2)	DCO=1.9 *3*
1065.2 *4*	14 *2*	2619.3	21/2$^+$	1554.1	17/2$^+$	(E2)	DCO=2.2 *3*
1075.0[&] *4*	<1	9083.2		8008.2			
1086.0 *4*	22 *2*	5164.6	(29/2$^-$)	4078.6	(25/2$^-$)	(E2)	DCO=1.9 *3*
1134.0 *4*	8 *1*	3097.5	(21/2$^+$)	1963.5	19/2$^+$	D(+Q)	DCO=1.6 *3*
1180.0 *4*	5 *1*	7960.2	(39/2$^+$)	6780.2	(37/2$^+$)		
1242.3 *4*	41 *4*	5521.9	(33/2$^+$)	4279.6	29/2$^+$	(E2)	DCO=2.1 *2*
1257.9 *4*	4.0[#] *11*	7704.3	(35/2$^-$)	6446.4	(33/2$^-$)		
1258.3 *4*	35 *4*	6780.2	(37/2$^+$)	5521.9	(33/2$^+$)	[@]	DCO=1.5 *3*
1298.0 *4*	30 *3*	3261.5	23/2$^+$	1963.5	19/2$^+$	(E2)	DCO=2.1 *2*
1367.2 *4*	25 *3*	6196.1	(35/2$^+$)	4828.9	31/2$^+$	(E2)	DCO=1.9 *2*
1395.9 *4*	5 *1*	6917.8	(35/2$^+$)	5521.9	(33/2$^+$)	D(+Q)	DCO=1.6 *2*
1457.0 *4*		6978.9		5521.9	(33/2$^+$)		
1505 *1*	<1	9209.3		7704.3	(35/2$^-$)		
1508 *1*	<1	8288.2	(39/2$^+$)	6780.2	(37/2$^+$)		
1543 *1*	<1	9247.3		7704.3	(35/2$^-$)		
1563 *1*	2.2[#] *5*	7084.9	(35/2$^+$)	5521.9	(33/2$^+$)		
1590 *1*	9 *1*	8370.2	(39/2$^+$)	6780.2	(37/2$^+$)	D(+Q)	DCO=1.5 *4*
1690 *1*	4 *1*	5969.6	(31/2$^+$)	4279.6	29/2$^+$		
1812 *1*	4.0[#] *20*	8008.2		6196.1	(35/2$^+$)		
1820 *1*	<1	8600.2	(39/2$^+$)	6780.2	(37/2$^+$)		
2068 *1*	<1	7589.9		5521.9	(33/2$^+$)		
2171 *1*	<1	7692.9		5521.9	(33/2$^+$)		

[†] Uncertainties of 10% were adopted by evaluator based on 1998GH07 recommendation, unless otherwise stated.

[‡] According to 1998Gh07, γ′s with DCO≈1.9 have E2 character and γ′s with DCO≈1.5 have dipole character, but they adopted No mult explicitly (also, the characters of the gating γ′s are not made explicit). The evaluator adopted ΔJ=2, Q, (E2) for the transitions with DCO≈1.9. For those with DCO≈1.5, the most likely assignment would Be ΔJ=1, D(+Q).

[#] From 1998Gh07.

[@] E2 based by DCO In 1998Gh07 is not adopted here.

[&] Placement of transition in the level scheme is uncertain.

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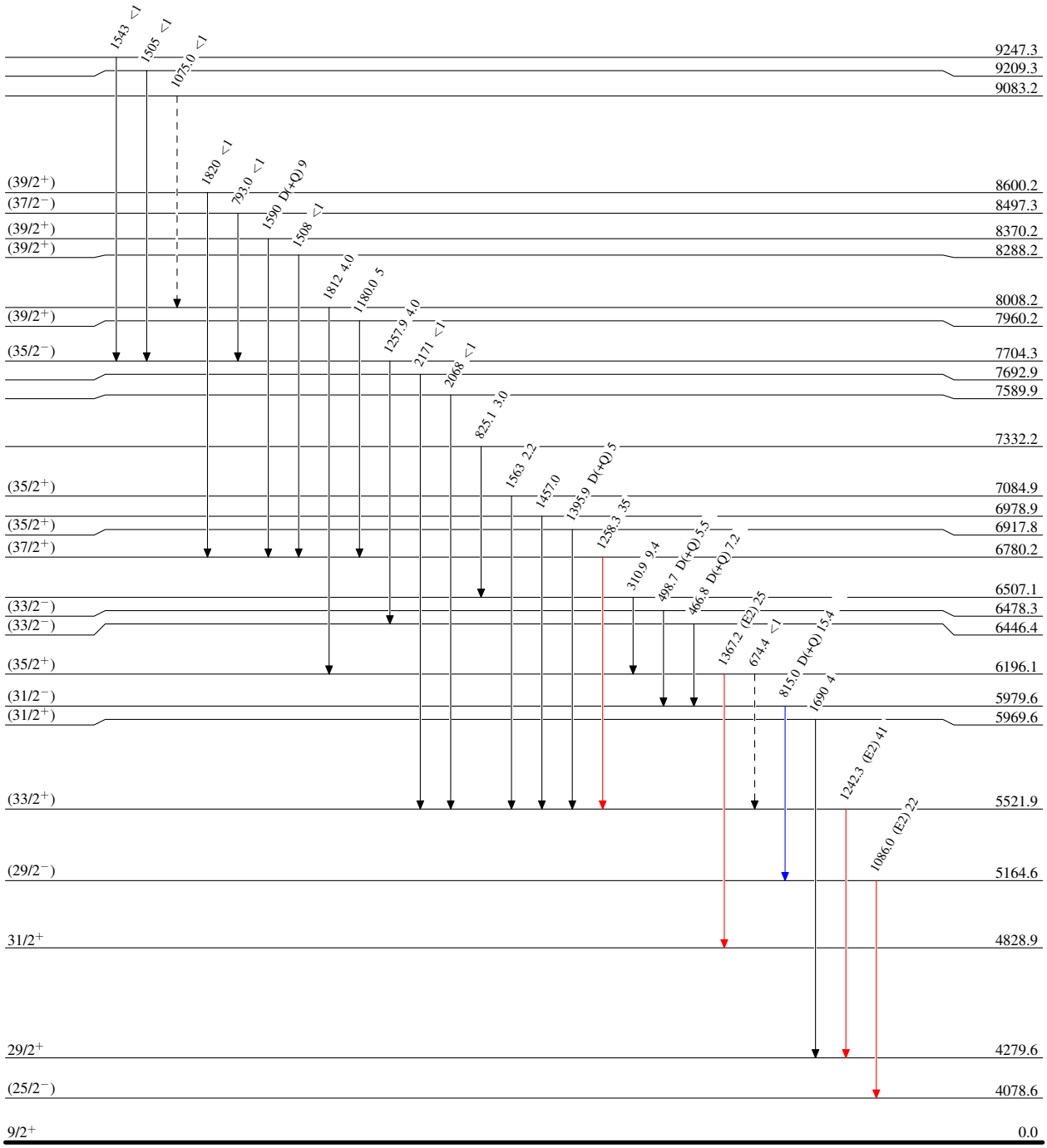
Level Scheme

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)

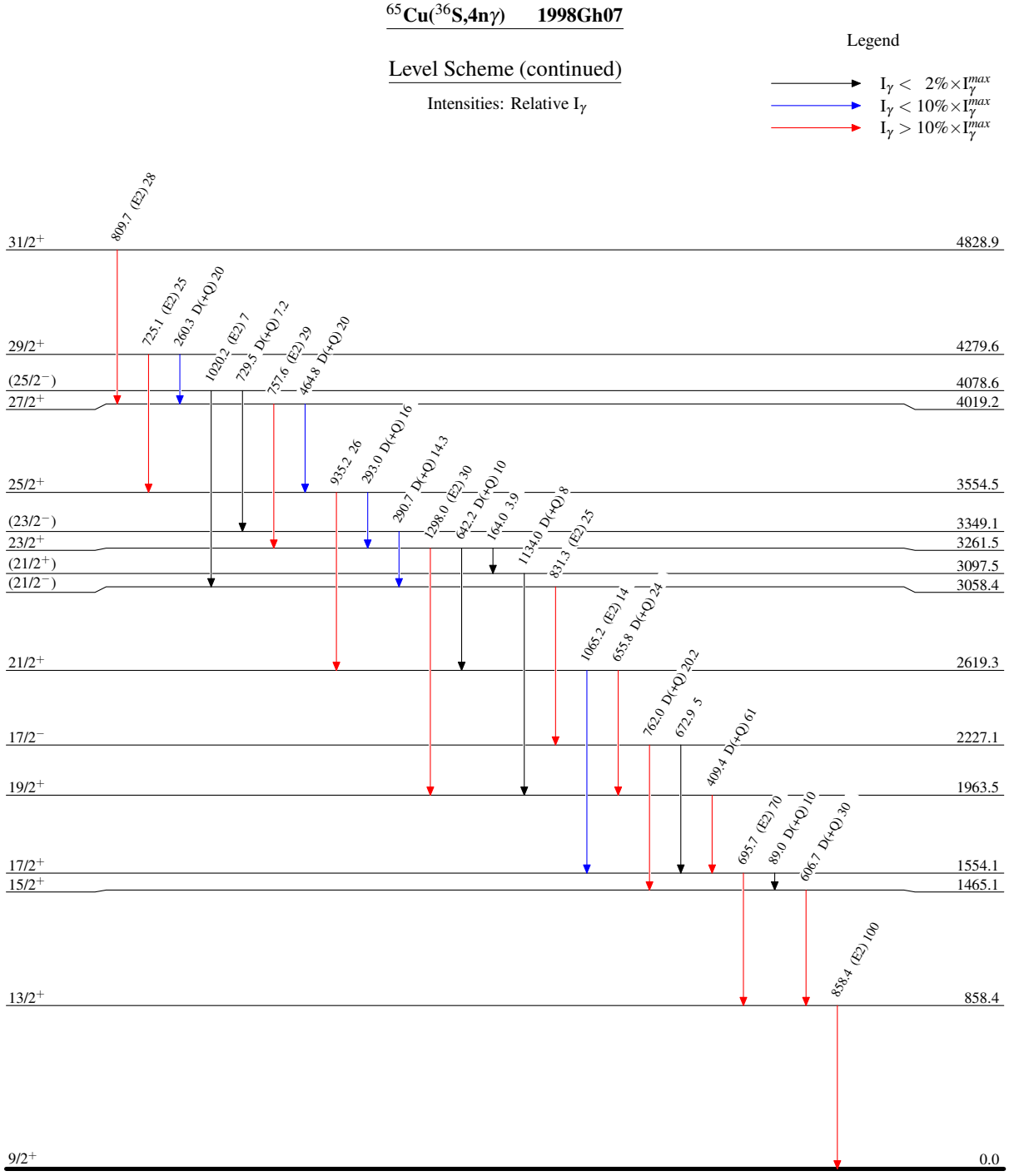


$^{97}_{45}Rh_{52}$

^{65}Cu(^{36}S,4nγ) 1998Gh07

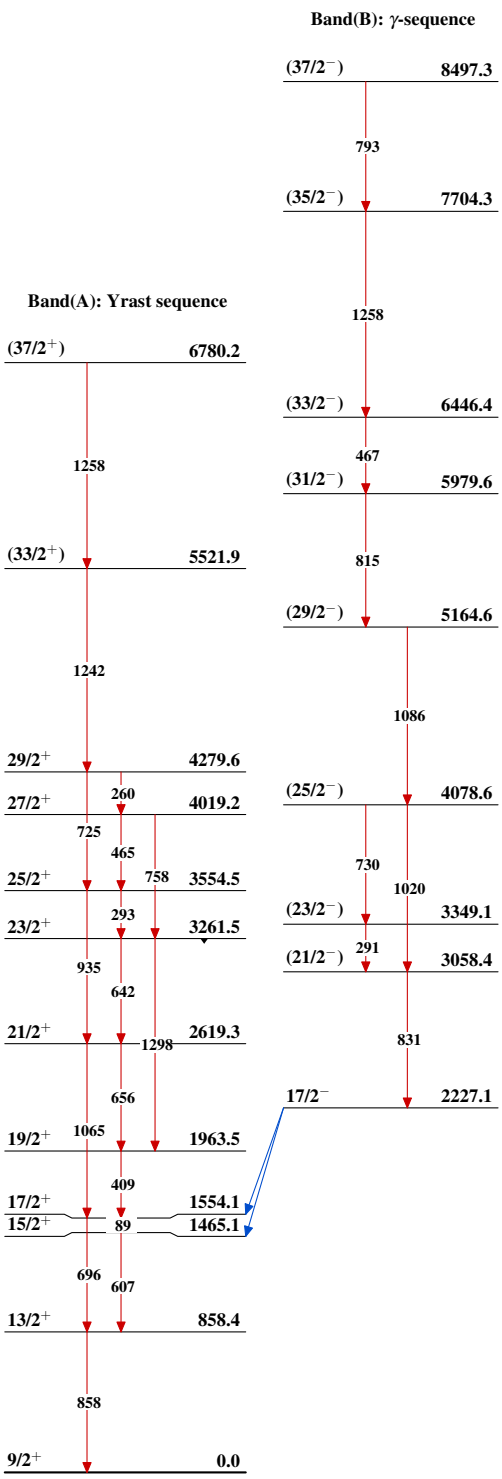
Level Scheme (continued)

Intensities: Relative I_γ



$^{97}_{45}Rh_{52}$

$^{65}Cu(^{36}S,4n\gamma)$ 1998Gh07



$^{97}_{45}Rh_{52}$