

$^{65}\text{Cu}(^{36}\text{S},\alpha\text{pn}\gamma)$ 1998Kh04

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

1998Kh04:E=142MeV. Measured $E\gamma$, $I\gamma$, $\gamma\gamma$, $\gamma\gamma(\theta)$ (DCO) using GAMMASPHERE array with 36 Compton-suppressed Ge detectors.

 ^{95}Mo Levels

E(level)	J^π	Comments
0.0 [†]	5/2 ⁺	E(level): decay γ not observed.
58.9 7	5/2 ⁺	
526.2 5	7/2 ⁺	
766.1 [†] 3	7/2 ⁺	
947.3 [†] 3	9/2 ⁺	
1332.5 [‡] 5	(11/2 ⁻)	
1540.5 [†] 4	11/2 ⁺	
1551.7 [#] 5	(9/2 ⁺)	
2092.5 [‡] 7	(15/2 ⁻)	
2219.1 [#] 6	(13/2 ⁺)	
2232.2 [†] 5	15/2 ⁺	
2580.0 [†] 6	17/2 ⁺	
2733.1 [†] 7	19/2 ⁺	
2895.4 [#] 7	(17/2 ⁺)	
3129.7 [‡] 8	(19/2 ⁻)	
3637.9 ^{†&} 7	(23/2 ⁺)	
3665.7 ^{#&} 7	(21/2 ⁺)	
4395.7 [‡] 9	(23/2 ⁻)	
4588.0 ^{†&} 8	(25/2 ⁺)	
4736.1 ^{#&} 8	(25/2 ⁺)	
5056.9 ^{@&} 9	(29/2 ⁺)	
5123.4 ^{†&} 8	(27/2 ⁺)	
5765.9 ^{†&} 9	(29/2 ⁺)	
5895.7 [‡] 10	(27/2 ⁻)	
6023.0 ^{@&} 9	(31/2 ⁺)	
6621.2 ^{†&} 10	(33/2 ⁺)	
7150.1 ^{&} 13	(31/2 ⁺)	
7244.3 ^{@&} 10	(33/2 ⁺)	
7426.8 [‡] 14	(31/2 ⁻)	
8292.1 ^{†&} 14	(37/2 ⁺)	
8827.4 ^{&} 14	(39/2 ⁺)	
9299.8 [‡] 17	(35/2 ⁻)	
9347.8 ^{@&} 14	(35/2 ⁺)	
9570.0 ^{†&} 14	(41/2 ⁺)	
11014.7 ^{†&} 15	(45/2 ⁺)	
12876.1 ^{†&} 18	(49/2 ⁺)	

[†] Band(A): g.s. band, 5/2⁺.

Continued on next page (footnotes at end of table)

$^{65}\text{Cu}(^{36}\text{S},\alpha\text{pn}\gamma)$ **1998Kh04 (continued)** ^{95}Mo Levels (continued)‡ Band(B): (11/2⁻) band.# Band(C): (9/2⁺) band.@ Band(D): (29/2⁺) band.& Level not included in the Adopted Levels, following $^{16}\text{O}(^{82}\text{Se},3\text{n}\gamma)$. $\gamma(^{95}\text{Mo})$

E_γ	$I_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
153.1 4	50.2	2733.1	19/2 ⁺	2580.0	17/2 ⁺	DCO= 1.6 2.
347.8 4	50.2	2580.0	17/2 ⁺	2232.2	15/2 ⁺	DCO= 1.5 2.
385.2 4	5.0 10	1332.5	(11/2 ⁻)	947.3	9/2 ⁺	DCO= 1.3 3.
387.3 4	10.5 10	5123.4	(27/2 ⁺)	4736.1	(25/2 ⁺)	DCO= 2.2 3.
421.1 4	2.0 5	947.3	9/2 ⁺	526.2	7/2 ⁺	
467.3 4	2.0 5	526.2	7/2 ⁺	58.9	5/2 ⁺	
468.9 4	7.0	5056.9	(29/2 ⁺)	4588.0	(25/2 ⁺)	DCO= 2.2 3.
535.3 4	7.1	8827.4	(39/2 ⁺)	8292.1	(37/2 ⁺)	DCO= 1.6 3.
535.4 4	21.0	5123.4	(27/2 ⁺)	4588.0	(25/2 ⁺)	DCO= 1.5 2.
593.2 4	51.1	1540.5	11/2 ⁺	947.3	9/2 ⁺	DCO= 1.6 2.
604.4 4	13.5	1551.7	(9/2 ⁺)	947.3	9/2 ⁺	DCO= 1.7 4.
642.5 4	33.2	5765.9	(29/2 ⁺)	5123.4	(27/2 ⁺)	DCO= 1.5 3.
667.4 4	13.5	2219.1	(13/2 ⁺)	1551.7	(9/2 ⁺)	DCO= 2.1 3.
676.3 4	13.5	2895.4	(17/2 ⁺)	2219.1	(13/2 ⁺)	DCO= 1.9 3.
691.7 4	70.1	2232.2	15/2 ⁺	1540.5	11/2 ⁺	DCO= 2.1 3.
742.6 4	7.1 7	9570.0	(41/2 ⁺)	8827.4	(39/2 ⁺)	DCO= 1.5 2.
760.0 4	5.0 10	2092.5	(15/2 ⁻)	1332.5	(11/2 ⁻)	DCO= 2.1 3.
						γ ray not observed in $^{16}\text{O}(^{82}\text{Se},3\text{n}\gamma)$.
766.1 4	20.0	766.1	7/2 ⁺	0.0	5/2 ⁺	DCO= 1.5 3.
770.3 4	13.5	3665.7	(21/2 ⁺)	2895.4	(17/2 ⁺)	DCO= 1.6 3.
774.4 4	20.0	1540.5	11/2 ⁺	766.1	7/2 ⁺	DCO= 1.9 3.
855.3 4	25.4	6621.2	(33/2 ⁺)	5765.9	(29/2 ⁺)	DCO= 1.8 3.
904.8 4	40.1	3637.9	(23/2 ⁺)	2733.1	19/2 ⁺	DCO= 1.8 3.
947.3 4	98.0	947.3	9/2 ⁺	0.0	5/2 ⁺	DCO= 2.0 2.
950.1 4	43.3	4588.0	(25/2 ⁺)	3637.9	(23/2 ⁺)	DCO= 1.6 3.
966.1 4	10.0	6023.0	(31/2 ⁺)	5056.9	(29/2 ⁺)	DCO= 1.6 3.
1037.2 4	5.0 10	3129.7	(19/2 ⁻)	2092.5	(15/2 ⁻)	DCO= 1.9 3.
						γ ray not observed in $^{16}\text{O}(^{82}\text{Se},3\text{n}\gamma)$.
1070.4 4	13.5	4736.1	(25/2 ⁺)	3665.7	(21/2 ⁺)	DCO= 2.2 3.
1221.3 4	4.0 9	7244.3	(33/2 ⁺)	6023.0	(31/2 ⁺)	
1266.0 4	4.0 10	4395.7	(23/2 ⁻)	3129.7	(19/2 ⁻)	DCO= 2.2 3.
						γ ray not observed in $^{16}\text{O}(^{82}\text{Se},3\text{n}\gamma)$.
1277.8 4	14.2	9570.0	(41/2 ⁺)	8292.1	(37/2 ⁺)	DCO= 1.9 2.
1444.7 4	18.1	11014.7	(45/2 ⁺)	9570.0	(41/2 ⁺)	DCO= 1.9 3.
1500.0 4	4.0 10	5895.7	(27/2 ⁻)	4395.7	(23/2 ⁻)	DCO= 2.3 4.
						γ ray not observed in $^{16}\text{O}(^{82}\text{Se},3\text{n}\gamma)$.
1531.0 10	3.0 10	7426.8	(31/2 ⁻)	5895.7	(27/2 ⁻)	γ ray not observed in $^{16}\text{O}(^{82}\text{Se},3\text{n}\gamma)$.
1670.9 10	21.2	8292.1	(37/2 ⁺)	6621.2	(33/2 ⁺)	
1861.4 10	8.3 20	12876.1	(49/2 ⁺)	11014.7	(45/2 ⁺)	γ ray not observed in $^{16}\text{O}(^{82}\text{Se},3\text{n}\gamma)$.
1873.0 10	2.0 5	9299.8	(35/2 ⁻)	7426.8	(31/2 ⁻)	γ ray not observed in $^{16}\text{O}(^{82}\text{Se},3\text{n}\gamma)$.
2093.2 10	3.0 5	7150.1	(31/2 ⁺)	5056.9	(29/2 ⁺)	DCO= 1.4 3.
2103.4 10	3.0 5	9347.8	(35/2 ⁺)	7244.3	(33/2 ⁺)	DCO= 1.6 2.

[†] $\Delta(I_\gamma) < 10\%$ when not stated.

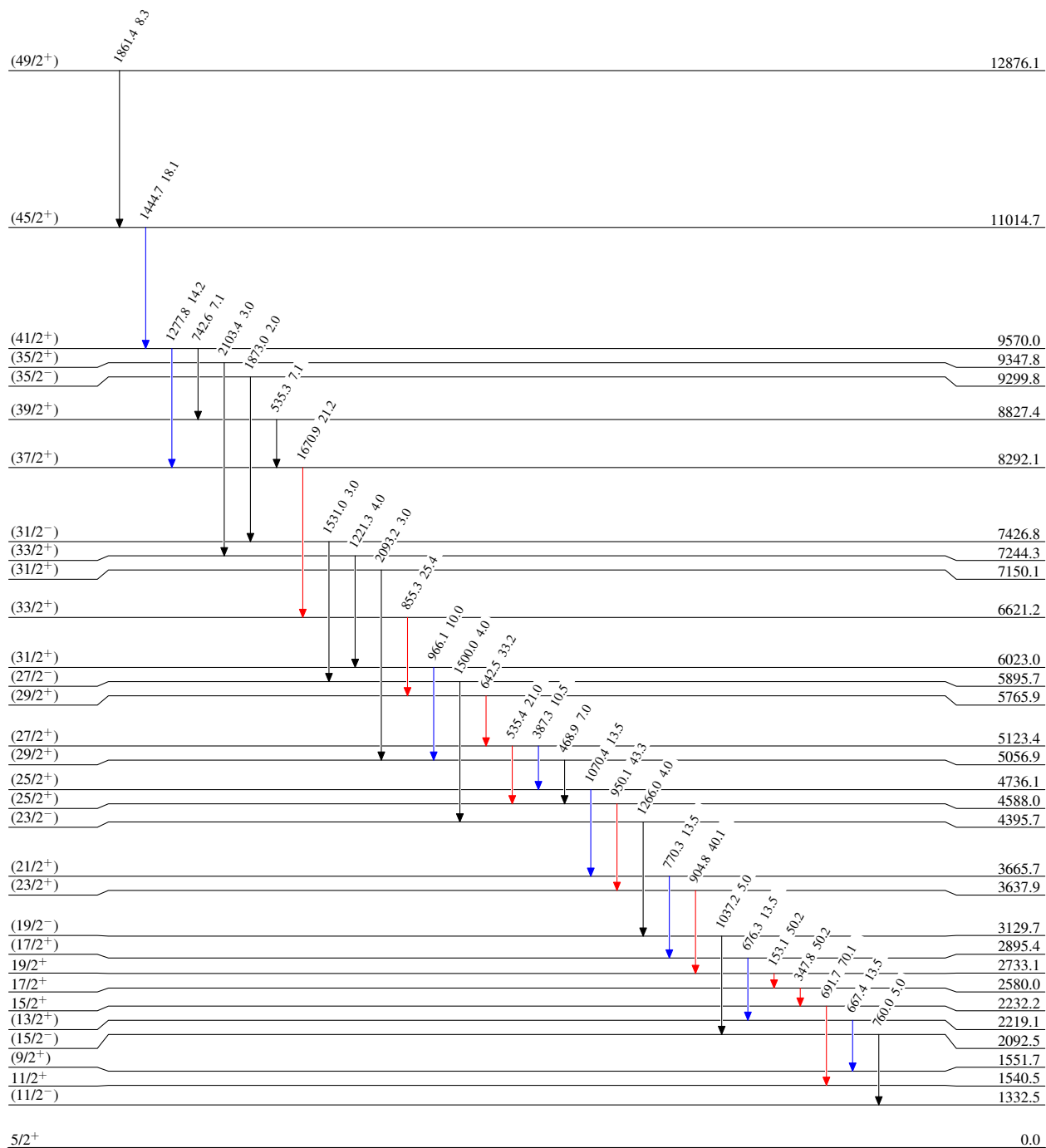
$^{65}\text{Cu}(^{36}\text{S}, \alpha p n \gamma)$ 1998Kh04

Level Scheme

Intensities: Relative I_γ

Legend

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



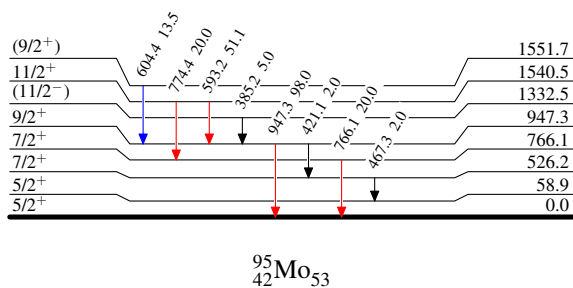
$^{65}\text{Cu}(^{36}\text{S},\alpha\text{pn}\gamma)$ 1998Kh04

Level Scheme (continued)

 Intensities: Relative I_γ

Legend

- ▶ $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
- ▶ $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
- ▶ $I_\gamma > 10\% \times I_\gamma^{\text{max}}$


 $^{95}_{42}\text{Mo}_{53}$

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