^{59}Co(^{19}F,2pnγ) 1992Jo04

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Alexandru Negret, Balraj Singh	NDS 114, 841 (2013)	30-Jun-2013

1992Jo04: E=55 MeV. Measured γ, $\gamma\gamma$, $T_{1/2}$(level) by DSAM, $\gamma\gamma(\theta)$(DCO) using four Compton suppressed HPGe detectors (efficiency=25%).

^{75}Se Levels

E(level)†	Jπ‡	$T_{1/2}$	E(level)†	Jπ‡	$T_{1/2}$
0.0@	5/2+		1910.20@ 23	(17/2+)	0.30 ps 6
112.12& 9	7/2+		2390.68b 17	(15/2−)	
132.38@ 9	9/2+		2595.1 3	(17/2+)	
286.35b 20	3/2−		2765.39& 24	(19/2+)	0.18 ps 3
427.53a 11	5/2−		2840.23a 22	(17/2−)	0.43# ps 20
747.28b 12	7/2−		2871.21 18	(17/2−)	0.48# ps 21
813.75& 15	11/2+		3017.8@ 3	(21/2+)	0.23 ps 6
933.43@ 13	13/2+		3288.8b 3	(19/2−)	0.62# ps 19
1078.30a 12	9/2−		3431.7 11	(19/2−)	
1487.19b 14	(11/2−)		3745.7& 3	(23/2+)	0.17 ps 3
1627.75 25	(13/2+)		4198.7@ 4	(25/2+)	0.10 ps 2
1740.36& 16	(15/2+)	0.25 ps 5	4830.7& 5	(27/2+)	0.32# ps 6
1904.80a 14	(13/2−)		5474.7@ 9	(29/2+)	0.11# ps 2

† From least-squares fit to Eγ data.
‡ From Adopted Levels below 800 keV. Above this the assignments are based on DCO data, where DCO≈1 suggests ΔJ=2 and DCO≈0.5 suggests ΔJ=1.
# Effective lifetime.
@ Band(A): π=+,α=+1/2.
& Band(B): π=+,α=−1/2.
a Band(C): π=−,α=−1/2.
b Band(D): π=−,α=+1/2.

γ(^{75}Se)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Comments
20		132.38	9/2+	112.12	7/2+	Ti(20γ)/Iγ(132γ)=79 2/21 2.
112.1 1	110 3	112.12	7/2+	0.0	5/2+	DCO=0.72 3.
119.4 2	4 1	933.43	13/2+	813.75	11/2+	DCO=0.61 25.
132.4 1	30 2	132.38	9/2+	0.0	5/2+	DCO=0.81 7.
141.2 2	132 2	427.53	5/2−	286.35	3/2−	DCO=0.50 4.
169.8 3	4 2	1910.20	(17/2+)	1740.36	(15/2+)	DCO=0.37 13.
252.7 5	2 1	3017.8	(21/2+)	2765.39	(19/2+)	DCO=0.37 19.
286.4		286.35	3/2−	0.0	5/2+	DCO=0.79 2.
315.4 1	10 3	427.53	5/2−	112.12	7/2+	DCO=0.61 15.
319.7 1	34 3	747.28	7/2−	427.53	5/2−	DCO=0.35 2.
330.8 2	14 5	1078.30	9/2−	747.28	7/2−	DCO=0.46 5.
408.9 1	8 2	1487.19	(11/2−)	1078.30	9/2−	DCO=0.40 6.
417.6 1	9 3	1904.80	(13/2−)	1487.19	(11/2−)	DCO=0.37 11.
427.6	44 4	427.53	5/2−	0.0	5/2+	DCO=0.92 6.
449.6 3	3 1	2840.23	(17/2−)	2390.68	(15/2−)	DCO=0.59 14.

Continued on next page (footnotes at end of table)

^{59}Co(^{19}F,2pnγ) 1992Jo04 (continued)

γ(^{75}Se) (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Comments
453.2 *7*	2 *1*	4198.7	(25/2$^+$)	3745.7	(23/2$^+$)	DCO=0.56 *22*.
460.9 *3*	13 *1*	747.28	7/2$^-$	286.35	3/2$^-$	DCO=1.02 *9*.
485.7 *7*	5 *1*	2390.68	(15/2$^-$)	1904.80	(13/2$^-$)	DCO=0.52 *22*.
631.6 *4*	8 *5*	4830.7	(27/2$^+$)	4198.7	(25/2$^+$)	DCO=0.31 *10*.
635.1 *2*	8 *3*	747.28	7/2$^-$	112.12	7/2$^+$	DCO=0.65 *5*.
650.8 *1*	20 *1*	1078.30	9/2$^-$	427.53	5/2$^-$	DCO=0.97 *7*.
673[†]		1487.19	(11/2$^-$)	813.75	11/2$^+$	
681.1 *2*	27 *2*	813.75	11/2$^+$	132.38	9/2$^+$	DCO=0.47 *18*.
684.9 *2*	2 *1*	2595.1	(17/2$^+$)	1910.20	(17/2$^+$)	
694.2 *3*	5 *2*	1627.75	(13/2$^+$)	933.43	13/2$^+$	
701.7 *3*	9 *3*	813.75	11/2$^+$	112.12	7/2$^+$	DCO=1.22 *20*.
727.9 *1*	15 *4*	3745.7	(23/2$^+$)	3017.8	(21/2$^+$)	DCO=0.21 *10*.
739.9 *2*	19 *2*	1487.19	(11/2$^-$)	747.28	7/2$^-$	DCO=0.97 *16*.
747.3 *3*	3 *1*	747.28	7/2$^-$	0.0	5/2$^+$	
801.1 *1*	100	933.43	13/2$^+$	132.38	9/2$^+$	DCO=0.99 *13*.
806.9 *2*	16 *5*	1740.36	(15/2$^+$)	933.43	13/2$^+$	DCO=0.36 *8*.
814.4 *5*	9 *3*	1627.75	(13/2$^+$)	813.75	11/2$^+$	DCO=0.51 *24*.
826.5 *1*	19 *2*	1904.80	(13/2$^-$)	1078.30	9/2$^-$	DCO=0.97 *14*.
855.2 *1*	19 *2*	2765.39	(19/2$^+$)	1910.20	(17/2$^+$)	DCO=0.22 *25*.
898.1 *2*	11 *1*	3288.8	(19/2$^-$)	2390.68	(15/2$^-$)	DCO=0.98 *15*.
903.5 *1*	12 *2*	2390.68	(15/2$^-$)	1487.19	(11/2$^-$)	DCO=0.93 *17*.
926.6 *1*	9 *2*	1740.36	(15/2$^+$)	813.75	11/2$^+$	DCO=1.27 *38*.
935.4 *2*	7 *1*	2840.23	(17/2$^-$)	1904.80	(13/2$^-$)	DCO=0.82 *12*.
946.1 *2*	7 *1*	1078.30	9/2$^-$	132.38	9/2$^+$	
966[†]		1078.30	9/2$^-$	112.12	7/2$^+$	
966.4 *1*	7 *1*	2871.21	(17/2$^-$)	1904.80	(13/2$^-$)	DCO=1.09 *27*.
967.4 *3*	6 *3*	2595.1	(17/2$^+$)	1627.75	(13/2$^+$)	
976.8 *3*	69 *5*	1910.20	(17/2$^+$)	933.43	13/2$^+$	DCO=1.10 *5*.
980.3 *4*	6 *3*	3745.7	(23/2$^+$)	2765.39	(19/2$^+$)	
1024.8 *7*	15 *4*	2765.39	(19/2$^+$)	1740.36	(15/2$^+$)	DCO=0.98 *13*.
1041	7 *1*	3431.7	(19/2$^-$)	2390.68	(15/2$^-$)	DCO=0.78 *20*.
1085.6 *5*	6 *2*	4830.7	(27/2$^+$)	3745.7	(23/2$^+$)	DCO=0.93 *54*.
1107.6 *2*	38 *2*	3017.8	(21/2$^+$)	1910.20	(17/2$^+$)	DCO=1.12 *17*.
1180.7 *2*	12 *2*	4198.7	(25/2$^+$)	3017.8	(21/2$^+$)	DCO=1.35 *32*.
1276.0 *8*	9 *2*	5474.7	(29/2$^+$)	4198.7	(25/2$^+$)	DCO=0.68 *35*.
1354.4 *4*	5 *2*	1487.19	(11/2$^-$)	132.38	9/2$^+$	

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

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Level Scheme

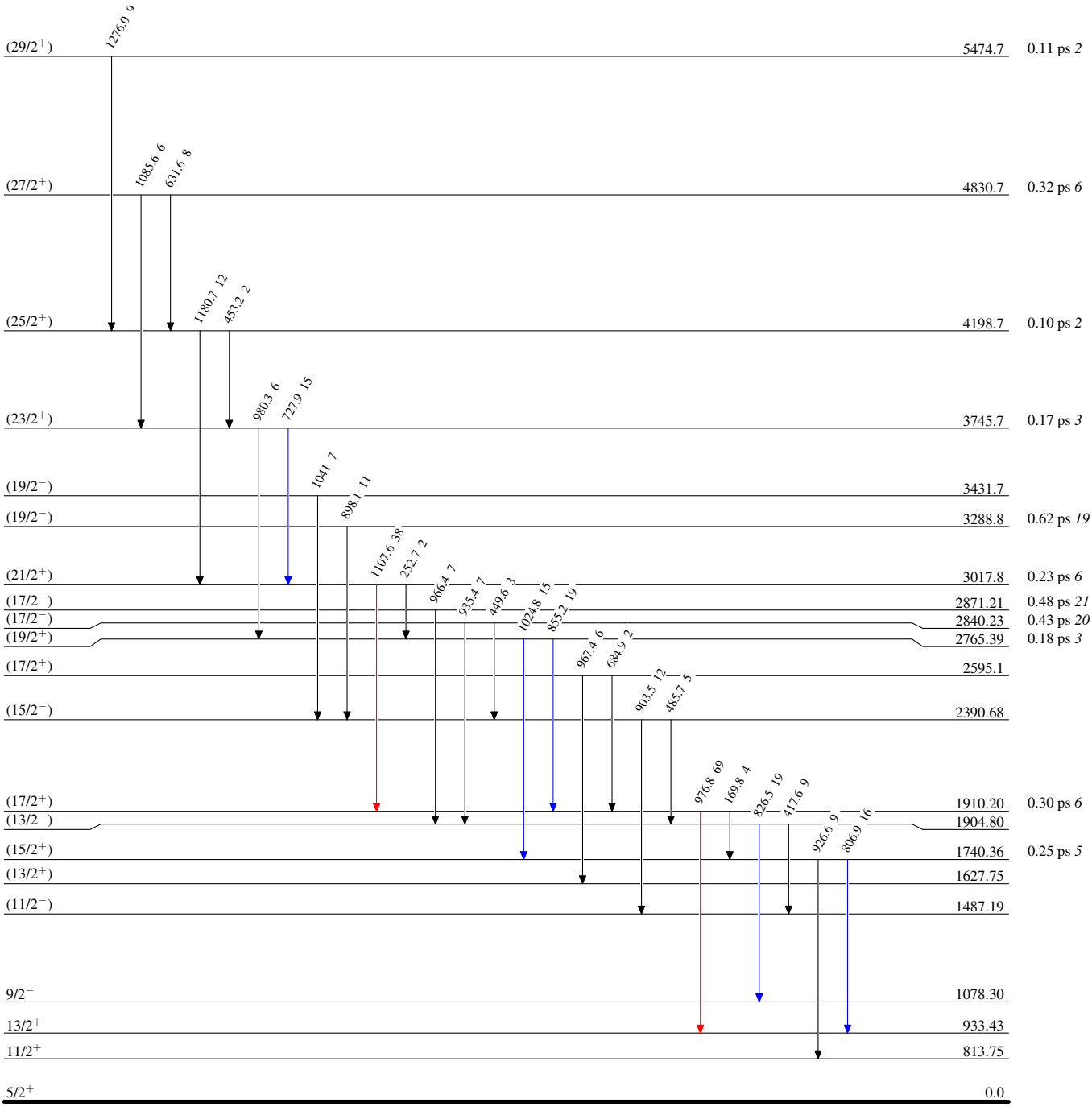
Intensities: Relative I_γ

Legend

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

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

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



$^{75}_{34}Se_{41}$

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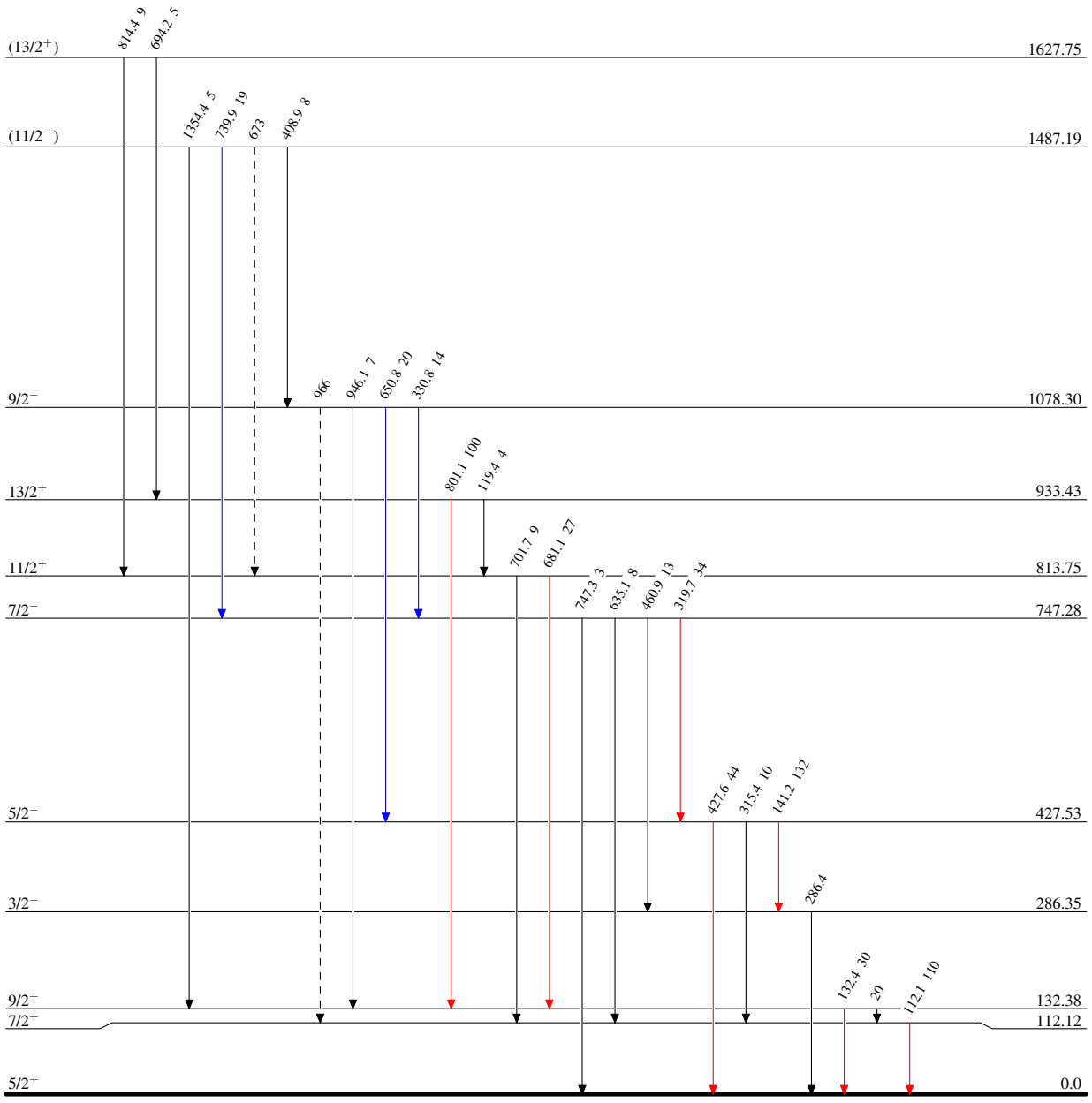
Level Scheme (continued)

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)



$^{75}_{34}Se_{41}$

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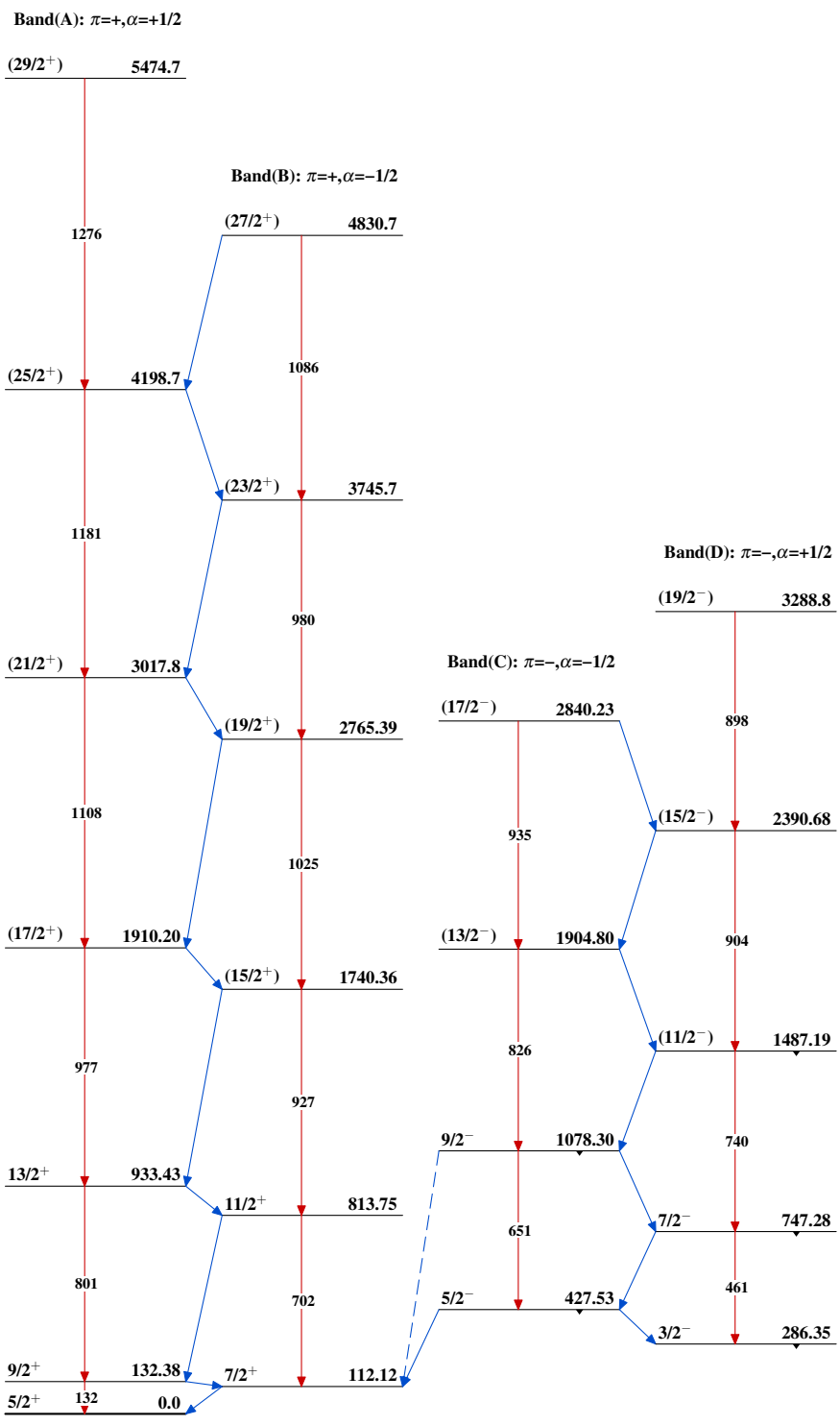

$^{75}_{34}Se_{41}$