^{176}Yb(^{28}Si,Fγ) 1999Ve12

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 109, 1383 (2008)	1-Mar-2008

^{176}Yb(^{28}Si,(fragment)γ) E=145 MeV, The beam provided by the "VIVITRON" at Strasbourg. ^{107}Rh produced as fission fragment following fusion. Measured Eγ, $\gamma\gamma$ using EUROGAM 2 array of 54 escape-suppressed Ge detectors.

^{107}Rh Levels

E(level)[†]	J$^\pi$	$T_{1/2}$[‡]	E(level)[†]	J$^\pi$	E(level)[†]	J$^\pi$
0.0	7/2$^+$		1166.1[c]	(13/2$^+$)	2357.7[#]	(21/2$^+$)
194.1[#]	9/2$^+$		1254.7[#]	(15/2$^+$)	2427.8[a]	(19/2$^-$)
267.9[&]	1/2$^-$	>10 μs	1461.0[b]	(15/2$^+$)	2659.8[a]	(21/2$^-$)
374.0[b]	3/2$^+$	15 ns *2*	1508.7[#]	(17/2$^+$)	2845.7[@]	(23/2$^+$)
485.5[&]	3/2$^-$		1583.1[c]	(15/2$^+$)	2874.0[b]	(23/2$^+$)
543.1[&]	(5/2$^-$)		1609.9[&]	(13/2$^-$)	2961.8[a]	(23/2$^-$)
559.5[#]	(11/2$^+$)		2033.1[c]	(17/2$^+$)	3134.7[@]	(25/2$^+$)
569.0[b]	(7/2$^+$)		2052.7[#]	(19/2$^+$)	3310.8[a]	(25/2$^-$)
680.1[c]	(11/2$^+$)		2118.0[b]	(19/2$^+$)	3433.7[@]	(27/2$^+$)
770.8[#]	(13/2$^+$)		2140.8[a]	(15/2$^-$)	3708.8[a]	(27/2$^-$)
936.0[b]	(11/2$^+$)		2276.8[a]	(17/2$^-$)	3801.7[@]	(29/2$^+$)
1006.0[&]	(9/2$^-$)		2300.9[&]	(17/2$^-$)		

[†] From least-squares fit to Eγ's, assuming Δ(Eγ)=1 keV.
[‡] From ENSDF (Adopted Levels in ^{107}Rh).
[#] Band(A): Band #1, based on 7/2$^+$ g.s..
[@] Band(B): Band #2, based on (23/2$^+$).
[&] Band(C): Band #3, based on (1/2$^-$). Possibly π1/2[301].
[a] Band(D): Band #4, based on (15/2$^-$). Possible configuration=$\pi g_{9/2}\nu h_{11/2}\nu(g_{7/2}/d_{5/2})$.
[b] Band(E): Band #5, based on (3/2$^+$). Possibly π1/2[431].
[c] Band(F): Band #6, based on (11/2$^+$).

γ(^{107}Rh)

E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
58	543.1	(5/2$^-$)	485.5	3/2$^-$	305	2357.7	(21/2$^+$)	2052.7	(19/2$^+$)
127	2427.8	(19/2$^-$)	2300.9	(17/2$^-$)	349	3310.8	(25/2$^-$)	2961.8	(23/2$^-$)
136	2276.8	(17/2$^-$)	2140.8	(15/2$^-$)	365	559.5	(11/2$^+$)	194.1	9/2$^+$
151	2427.8	(19/2$^-$)	2276.8	(17/2$^-$)	367	936.0	(11/2$^+$)	569.0	(7/2$^+$)
194	194.1	9/2$^+$	0.0	7/2$^+$	368	3801.7	(29/2$^+$)	3433.7	(27/2$^+$)
195	569.0	(7/2$^+$)	374.0	3/2$^+$	374	374.0	3/2$^+$	0.0	7/2$^+$
211	770.8	(13/2$^+$)	559.5	(11/2$^+$)	375	569.0	(7/2$^+$)	194.1	9/2$^+$
218	485.5	3/2$^-$	267.9	1/2$^-$	398	3708.8	(27/2$^-$)	3310.8	(25/2$^-$)
232	2659.8	(21/2$^-$)	2427.8	(19/2$^-$)	417	1583.1	(15/2$^+$)	1166.1	(13/2$^+$)
254	1508.7	(17/2$^+$)	1254.7	(15/2$^+$)	450	2033.1	(17/2$^+$)	1583.1	(15/2$^+$)
268.36[†]	267.9	1/2$^-$	0.0	7/2$^+$	463	1006.0	(9/2$^-$)	543.1	(5/2$^-$)
275	543.1	(5/2$^-$)	267.9	1/2$^-$	484	1254.7	(15/2$^+$)	770.8	(13/2$^+$)
289	3134.7	(25/2$^+$)	2845.7	(23/2$^+$)	486	680.1	(11/2$^+$)	194.1	9/2$^+$
299	3433.7	(27/2$^+$)	3134.7	(25/2$^+$)	486	1166.1	(13/2$^+$)	680.1	(11/2$^+$)
302	2961.8	(23/2$^-$)	2659.8	(21/2$^-$)	488	2845.7	(23/2$^+$)	2357.7	(21/2$^+$)

Continued on next page (footnotes at end of table)

^{176}Yb(^{28}Si,Fγ) 1999Ve12 (continued)

γ(^{107}Rh) (continued)

E_γ	E_i(level)	J_i^π	E_f	J_f^π	E_γ	E_i(level)	J_i^π	E_f	J_f^π
525	1461.0	$(15/2^+)$	936.0	$(11/2^+)$	738	1508.7	$(17/2^+)$	770.8	$(13/2^+)$
544	2052.7	$(19/2^+)$	1508.7	$(17/2^+)$	756	2874.0	$(23/2^+)$	2118.0	$(19/2^+)$
569	569.0	$(7/2^+)$	0.0	$7/2^+$	793	2845.7	$(23/2^+)$	2052.7	$(19/2^+)$
577	770.8	$(13/2^+)$	194.1	$9/2^+$	798	2052.7	$(19/2^+)$	1254.7	$(15/2^+)$
604	1609.9	$(13/2^-)$	1006.0	$(9/2^-)$	849	2357.7	$(21/2^+)$	1508.7	$(17/2^+)$
657	2118.0	$(19/2^+)$	1461.0	$(15/2^+)$	867	2033.1	$(17/2^+)$	1166.1	$(13/2^+)$
667	2276.8	$(17/2^-)$	1609.9	$(13/2^-)$	1022	2276.8	$(17/2^-)$	1254.7	$(15/2^+)$
691	2300.9	$(17/2^-)$	1609.9	$(13/2^-)$	1370	2140.8	$(15/2^-)$	770.8	$(13/2^+)$
695	1254.7	$(15/2^+)$	559.5	$(11/2^+)$					

† From adopted gammas for ^{107}Rh).

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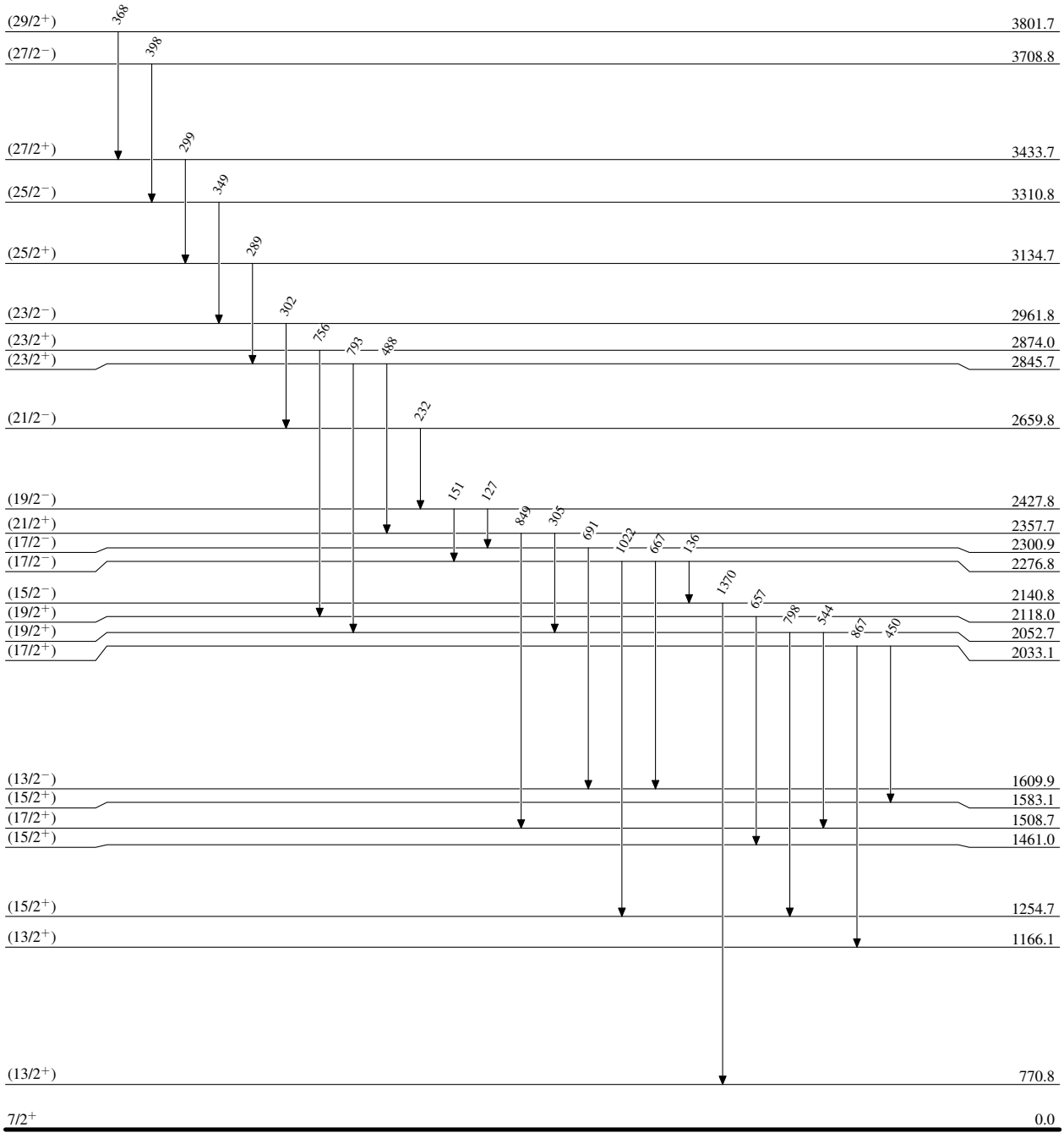
Level Scheme



$^{107}_{45}Rh_{62}$

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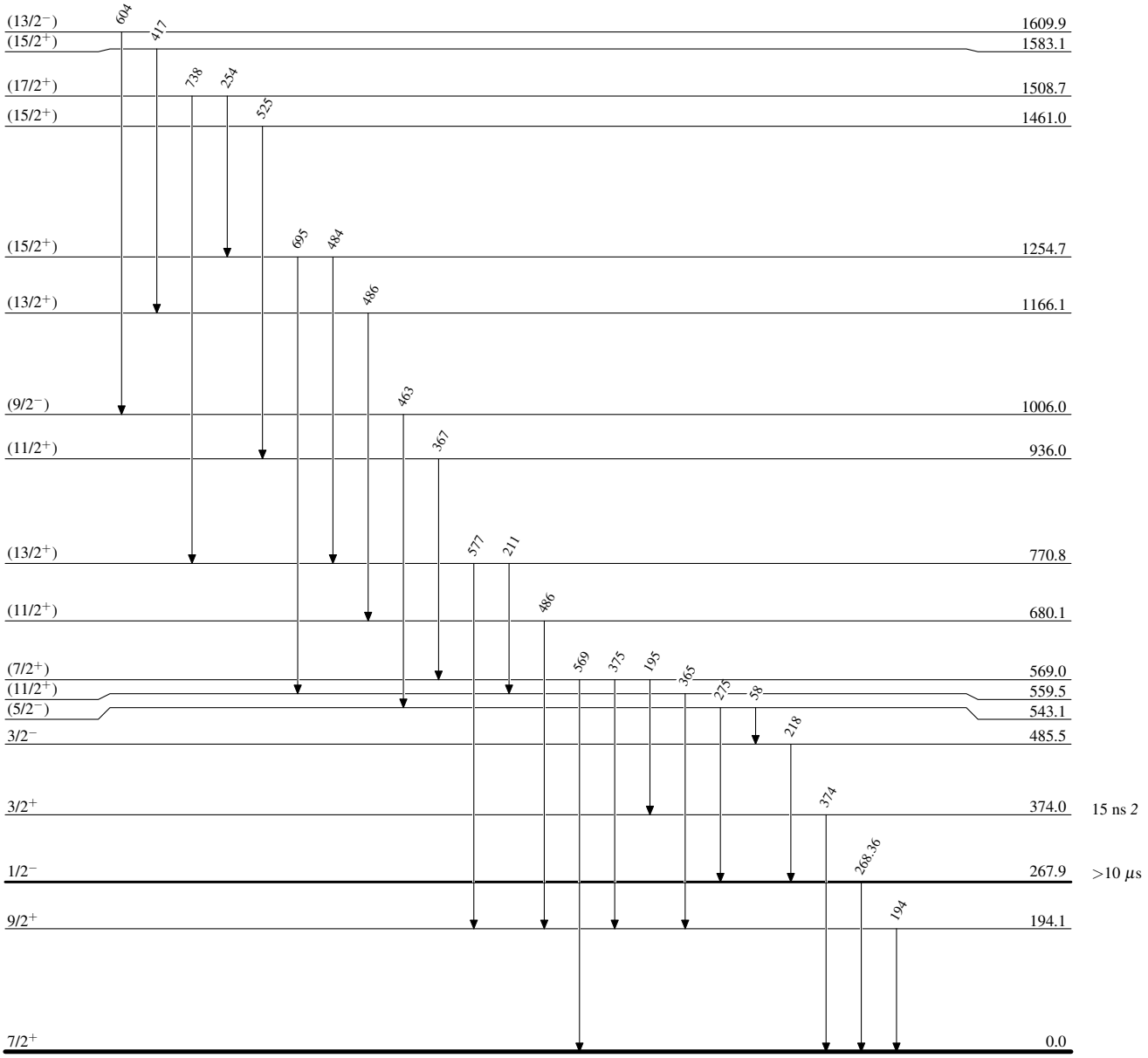
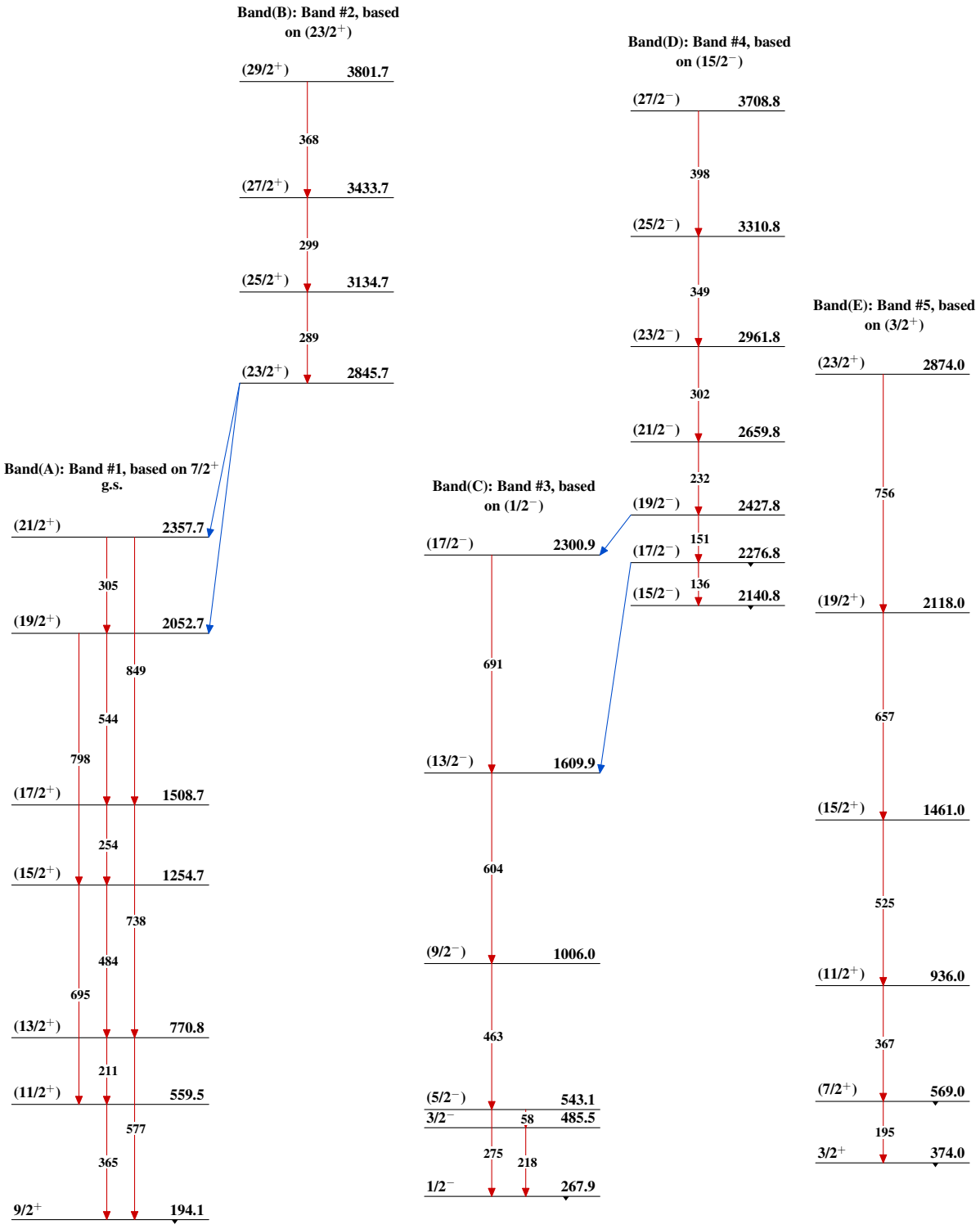
Level Scheme (continued)



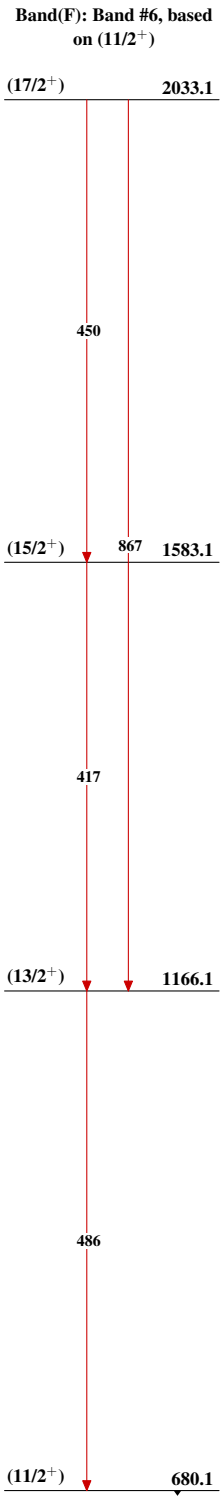
$^{107}_{45}Rh_{62}$

^{176}Yb(^{28}Si,Fγ) 1999Ve12



$^{107}_{45}Rh_{62}$

^{176}Yb(^{28}Si,Fγ) 1999Ve12 (continued)



$^{107}_{45}Rh_{62}$