

$^{109}\text{Ag}(^{16}\text{O,p3n}\gamma)$ **1999Mo06**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	S. Ohya	NDS 111, 1619 (2010)	20-Jan-2009

E=80 MeV. Measured $E\gamma$, $I\gamma$, $\gamma\gamma$ with seven Compton-suppressed (with BGO shields) HPGe detectors.

 ^{121}Xe Levels

E(level) [†]	J π [‡]	E(level) [†]	J π [‡]	E(level) [†]	J π [‡]	E(level) [†]	J π [‡]
0.0 ^g	5/2 ⁽⁺⁾	1281.0 ^f 9	(15/2 ⁺)	2748.6 ^f 12	(23/2 ⁺)	3961.6 ^e 15	(31/2 ⁺)
153.9 ⁱ 7	(1/2 ⁺)	1309.5 [#] 11	(15/2 ⁻)	2777.3 ^e 11	(23/2 ⁺)	4037.1 ^c 13	(31/2 ⁺)
179.3 ^f 6	7/2 ⁽⁺⁾	1445.7 ⁱ 16	(13/2 ⁺)	2818.2 ^c 10	(23/2 ⁺)	4379.2 ^d 17	(33/2 ⁺)
196.0 ^{&} 8	7/2 ⁽⁻⁾	1533.8 [@] 11	(17/2 ⁻)	2832.6 ^{&} 15	(27/2 ⁻)	4494.8 ^b 14	(33/2 ⁺)
234.4 ^a 8	7/2 ⁽⁻⁾ , 9/2 ⁽⁻⁾	1590.2 ^h 12	(15/2 ⁺)	2880.7 ^a 15	(25/2 ⁻)	4752.2 ^{&} 21	(35/2 ⁻)
240.1 ^h 7	(3/2 ⁺)	1617.9 ^g 10	(17/2 ⁺)	2946.3 ^h 16	(23/2 ⁺)	4834.8 ^a 20	(33/2 ⁻)
264.5 ^{&} 9	(11/2 ⁻)	1936.5 [#] 12	(19/2 ⁻)	2991.4 ^d 11	(25/2 ⁺)	4838.2 ^e 16	(35/2 ⁺)
413.8 ^g 7	(9/2 ⁺)	1985.2 ^f 10	(19/2 ⁺)	3061.5 [@] 13	(25/2 ⁻)	4897.6 ^c 15	(35/2 ⁺)
449.9 ⁱ 6	(5/2 ⁺)	1995.0 ^{&} 11	(23/2 ⁻)	3100.9 ^b 11	(25/2 ⁺)	5333.7 ^d 20	(37/2 ⁺)
561.0 ^h 8	(7/2 ⁺)	2014.2 ^a 10	(21/2 ⁻)	3151.3 ^g 14	(25/2 ⁺)	5369.1 ^b 15	(37/2 ⁺)
657.4 ^a 9	(13/2 ⁻)	2098.0 ⁱ 19	(17/2 ⁺)	3263.7 ^e 12	(27/2 ⁺)	5740.5 ^a 23	(37/2 ⁻)
670.1 ^f 8	(11/2 ⁺)	2243.5 [@] 12	(21/2 ⁻)	3270.9 ^c 12	(27/2 ⁺)	5849.1 ^c 16	(39/2 ⁺)
686.4 ^{&} 10	(15/2 ⁻)	2244.1 ^h 12	(19/2 ⁺)	3553.1 [#] 19	(27/2 ⁻)	5856.2 ^e 19	(39/2 ⁺)
881.0 ⁱ 12	(9/2 ⁺)	2269.5 ^c 12	(19/2 ⁺)	3587.8 ^d 13	(29/2 ⁺)	6340.3 ^b 18	(41/2 ⁺)
941.8 [@] 12	(13/2 ⁻)	2355.3 ^g 10	(21/2 ⁺)	3698.4 ^h 19	(27/2 ⁺)	6853.6 ^c 19	(43/2 ⁺)
962.8 ^g 9	(13/2 ⁺)	2532.6 12	(19/2 ⁺)	3716.9 ^b 12	(29/2 ⁺)	7359.9 ^b 21	(45/2 ⁺)
1021.6 ^h 11	(11/2 ⁺)	2582.2 ^b 12	(21/2 ⁺)	3763.1 ^{&} 18	(31/2 ⁻)		
1264.2 ^a 10	(17/2 ⁻)	2621.3 ^d 11	(21/2 ⁺)	3835.2 ^a 18	(29/2 ⁻)		
1273.3 ^{&} 10	(19/2 ⁻)	2699.4 [#] 16	(23/2 ⁻)	3958.1 [@] 16	(29/2 ⁻)		

[†] From least-squares fit to $E\gamma$'s, assuming $\Delta(E\gamma)=0.3$ keV (evaluator). The energies of high energy levels are slightly different with those of Adopted Levels.

[‡] From Adopted Levels.

[#] Band(A): 15/2⁻ Band.

[@] Band(B): 13/2⁻ Band.

[&] Band(C): 11/2⁻ Band.

^a Band(D): 9/2⁻ Band.

^b Band(E): 21/2⁺ Band.

^c Band(F): 19/2⁺ Band.

^d Band(G): 21/2⁺ Band.

^e Band(H): 23/2⁺ Band.

^f Band(I): 7/2⁺ Band.

^g Band(J): 5/2⁺ g.s. Band.

^h Band(K): 3/2⁺ Band.

ⁱ Band(L): 1/2⁺ Band.

$^{109}\text{Ag}(^{16}\text{O,p3n}\gamma)$ **1999Mo06 (continued)** $\gamma(^{121}\text{Xe})$

E_γ	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π
30.1		264.5	(11/2 ⁻)	234.4	7/2 ⁽⁻⁾ ,9/2 ⁽⁻⁾
38.4		234.4	7/2 ⁽⁻⁾ ,9/2 ⁽⁻⁾	196.0	7/2 ⁽⁻⁾
55.4		234.4	7/2 ⁽⁻⁾ ,9/2 ⁽⁻⁾	179.3	7/2 ⁽⁺⁾
68.5		264.5	(11/2 ⁻)	196.0	7/2 ⁽⁻⁾
86.2		240.1	(3/2 ⁺)	153.9	(1/2 ⁺)
88.7		2621.3	(21/2 ⁺)	2532.6	(19/2 ⁺)
111.1		561.0	(7/2 ⁺)	449.9	(5/2 ⁺)
153.9		153.9	(1/2 ⁺)	0.0	5/2 ⁽⁺⁾
156.0		2777.3	(23/2 ⁺)	2621.3	(21/2 ⁺)
170		3270.9	(27/2 ⁺)	3100.9	(25/2 ⁺)
179.3		179.3	7/2 ⁽⁺⁾	0.0	5/2 ⁽⁺⁾
195.9		196.0	7/2 ⁽⁻⁾	0.0	5/2 ⁽⁺⁾
209.8		449.9	(5/2 ⁺)	240.1	(3/2 ⁺)
214.1		2991.4	(25/2 ⁺)	2777.3	(23/2 ⁺)
234.5		413.8	(9/2 ⁺)	179.3	7/2 ⁽⁺⁾
240.1		240.1	(3/2 ⁺)	0.0	5/2 ⁽⁺⁾
256.3		670.1	(11/2 ⁺)	413.8	(9/2 ⁺)
270.6		449.9	(5/2 ⁺)	179.3	7/2 ⁽⁺⁾
272.3		3263.7	(27/2 ⁺)	2991.4	(25/2 ⁺)
282.7		3100.9	(25/2 ⁺)	2818.2	(23/2 ⁺)
292.6		962.8	(13/2 ⁺)	670.1	(11/2 ⁺)
296.0	2	449.9	(5/2 ⁺)	153.9	(1/2 ⁺)
318		1281.0	(15/2 ⁺)	962.8	(13/2 ⁺)
320.9	8	561.0	(7/2 ⁺)	240.1	(3/2 ⁺)
324.1		3587.8	(29/2 ⁺)	3263.7	(27/2 ⁺)
336.8		1617.9	(17/2 ⁺)	1281.0	(15/2 ⁺)
367.4		1985.2	(19/2 ⁺)	1617.9	(17/2 ⁺)
370.0		2355.3	(21/2 ⁺)	1985.2	(19/2 ⁺)
370.1		2991.4	(25/2 ⁺)	2621.3	(21/2 ⁺)
381.7		561.0	(7/2 ⁺)	179.3	7/2 ⁽⁺⁾
392.9	21	657.4	(13/2 ⁻)	264.5	(11/2 ⁻)
393.3		2748.6	(23/2 ⁺)	2355.3	(21/2 ⁺)
413.8		413.8	(9/2 ⁺)	0.0	5/2 ⁽⁺⁾
422.0	100	686.4	(15/2 ⁻)	264.5	(11/2 ⁻)
423.0	20	657.4	(13/2 ⁻)	234.4	7/2 ⁽⁻⁾ ,9/2 ⁽⁻⁾
431.1	2	881.0	(9/2 ⁺)	449.9	(5/2 ⁺)
446.0		3716.9	(29/2 ⁺)	3270.9	(27/2 ⁺)
449.9		449.9	(5/2 ⁺)	0.0	5/2 ⁽⁺⁾
452.7		3270.9	(27/2 ⁺)	2818.2	(23/2 ⁺)
457.7		4494.8	(33/2 ⁺)	4037.1	(31/2 ⁺)
460.6	5	1021.6	(11/2 ⁺)	561.0	(7/2 ⁺)
471.5		5369.1	(37/2 ⁺)	4897.6	(35/2 ⁺)
486.4		3263.7	(27/2 ⁺)	2777.3	(23/2 ⁺)
490.8		670.1	(11/2 ⁺)	179.3	7/2 ⁽⁺⁾
518.7		3100.9	(25/2 ⁺)	2582.2	(21/2 ⁺)
548.7		2818.2	(23/2 ⁺)	2269.5	(19/2 ⁺)
548.9		962.8	(13/2 ⁺)	413.8	(9/2 ⁺)
564.7	2	1445.7	(13/2 ⁺)	881.0	(9/2 ⁺)
568.6	5	1590.2	(15/2 ⁺)	1021.6	(11/2 ⁺)
574.1		2818.2	(23/2 ⁺)	2244.1	(19/2 ⁺)
577.8	11	1264.2	(17/2 ⁻)	686.4	(15/2 ⁻)
586.9	71	1273.3	(19/2 ⁻)	686.4	(15/2 ⁻)
592.0	3	1533.8	(17/2 ⁻)	941.8	(13/2 ⁻)
596.4		3587.8	(29/2 ⁺)	2991.4	(25/2 ⁺)
606.9	20	1264.2	(17/2 ⁻)	657.4	(13/2 ⁻)

Continued on next page (footnotes at end of table)

$^{109}\text{Ag}(^{16}\text{O,p3n}\gamma)$ **1999Mo06 (continued)** $\gamma(^{121}\text{Xe})$ (continued)

E_γ	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π
610.9		1281.0	(15/2 ⁺)	670.1	(11/2 ⁺)	833.0		2818.2	(23/2 ⁺)	1985.2	(19/2 ⁺)
616.0		3716.9	(29/2 ⁺)	3100.9	(25/2 ⁺)	837.6	21	2832.6	(27/2 ⁻)	1995.0	(23/2 ⁻)
623.0	2	1309.5	(15/2 ⁻)	686.4	(15/2 ⁻)	847.3	3	1533.8	(17/2 ⁻)	686.4	(15/2 ⁻)
623.7		1281.0	(15/2 ⁺)	657.4	(13/2 ⁻)	853.6	2	3553.1	(27/2 ⁻)	2699.4	(23/2 ⁻)
627.1	4	1936.5	(19/2 ⁻)	1309.5	(15/2 ⁻)	860.5		4897.6	(35/2 ⁺)	4037.1	(31/2 ⁺)
652.1	5	1309.5	(15/2 ⁻)	657.4	(13/2 ⁻)	866.5	7	2880.7	(25/2 ⁻)	2014.2	(21/2 ⁻)
652.3	1	2098.0	(17/2 ⁺)	1445.7	(13/2 ⁺)	874.3		5369.1	(37/2 ⁺)	4494.8	(33/2 ⁺)
653.9	4	2244.1	(19/2 ⁺)	1590.2	(15/2 ⁺)	876.6		4838.2	(35/2 ⁺)	3961.6	(31/2 ⁺)
655.1		1617.9	(17/2 ⁺)	962.8	(13/2 ⁺)	896.6	3	3958.1	(29/2 ⁻)	3061.5	(25/2 ⁻)
672.3	2	1936.5	(19/2 ⁻)	1264.2	(17/2 ⁻)	905.7	<1	5740.5	(37/2 ⁻)	4834.8	(33/2 ⁻)
677.3	5	941.8	(13/2 ⁻)	264.5	(11/2 ⁻)	930.5	11	3763.1	(31/2 ⁻)	2832.6	(27/2 ⁻)
697.9		3961.6	(31/2 ⁺)	3263.7	(27/2 ⁺)	951.5		5849.1	(39/2 ⁺)	4897.6	(35/2 ⁺)
702.2	3	2946.3	(23/2 ⁺)	2244.1	(19/2 ⁺)	954.5	3	3835.2	(29/2 ⁻)	2880.7	(25/2 ⁻)
704.2		1985.2	(19/2 ⁺)	1281.0	(15/2 ⁺)	954.5		5333.7	(37/2 ⁺)	4379.2	(33/2 ⁺)
709.7	4	2243.5	(21/2 ⁻)	1533.8	(17/2 ⁻)	970.2	2	2243.5	(21/2 ⁻)	1273.3	(19/2 ⁻)
721.7	47	1995.0	(23/2 ⁻)	1273.3	(19/2 ⁻)	971.2		6340.3	(41/2 ⁺)	5369.1	(37/2 ⁺)
737.4		2355.3	(21/2 ⁺)	1617.9	(17/2 ⁺)	989.1	3	4752.2	(35/2 ⁻)	3763.1	(31/2 ⁻)
740.9	4	2014.2	(21/2 ⁻)	1273.3	(19/2 ⁻)	996.4		2991.4	(25/2 ⁺)	1995.0	(23/2 ⁻)
745.5		3100.9	(25/2 ⁺)	2355.3	(21/2 ⁺)	999.6	2	4834.8	(33/2 ⁻)	3835.2	(29/2 ⁻)
750.0	18	2014.2	(21/2 ⁻)	1264.2	(17/2 ⁻)	1004.5		6853.6	(43/2 ⁺)	5849.1	(39/2 ⁺)
752.1	2	3698.4	(27/2 ⁺)	2946.3	(23/2 ⁺)	1005.3		2269.5	(19/2 ⁺)	1264.2	(17/2 ⁻)
762.9	3	2699.4	(23/2 ⁻)	1936.5	(19/2 ⁻)	1010.9		5849.1	(39/2 ⁺)	4838.2	(35/2 ⁺)
763.1		2777.3	(23/2 ⁺)	2014.2	(21/2 ⁻)	1018.0		5856.2	(39/2 ⁺)	4838.2	(35/2 ⁺)
763.3		2748.6	(23/2 ⁺)	1985.2	(19/2 ⁺)	1019.6		7359.9	(45/2 ⁺)	6340.3	(41/2 ⁺)
766.2		4037.1	(31/2 ⁺)	3270.9	(27/2 ⁺)	1066.5	1	3061.5	(25/2 ⁻)	1995.0	(23/2 ⁻)
777.9		4494.8	(33/2 ⁺)	3716.9	(29/2 ⁺)	1082.0		2355.3	(21/2 ⁺)	1273.3	(19/2 ⁻)
791.4		4379.2	(33/2 ⁺)	3587.8	(29/2 ⁺)	1105.9		3100.9	(25/2 ⁺)	1995.0	(23/2 ⁻)
792.1		2777.3	(23/2 ⁺)	1985.2	(19/2 ⁺)	1259.3		2532.6	(19/2 ⁺)	1273.3	(19/2 ⁻)
796.0		3151.3	(25/2 ⁺)	2355.3	(21/2 ⁺)	1308.9		2582.2	(21/2 ⁺)	1273.3	(19/2 ⁻)
804.0		2818.2	(23/2 ⁺)	2014.2	(21/2 ⁻)	1348.0		2621.3	(21/2 ⁺)	1273.3	(19/2 ⁻)
818.1	4	3061.5	(25/2 ⁻)	2243.5	(21/2 ⁻)						

† Relative to I(422.2 γ)=100.

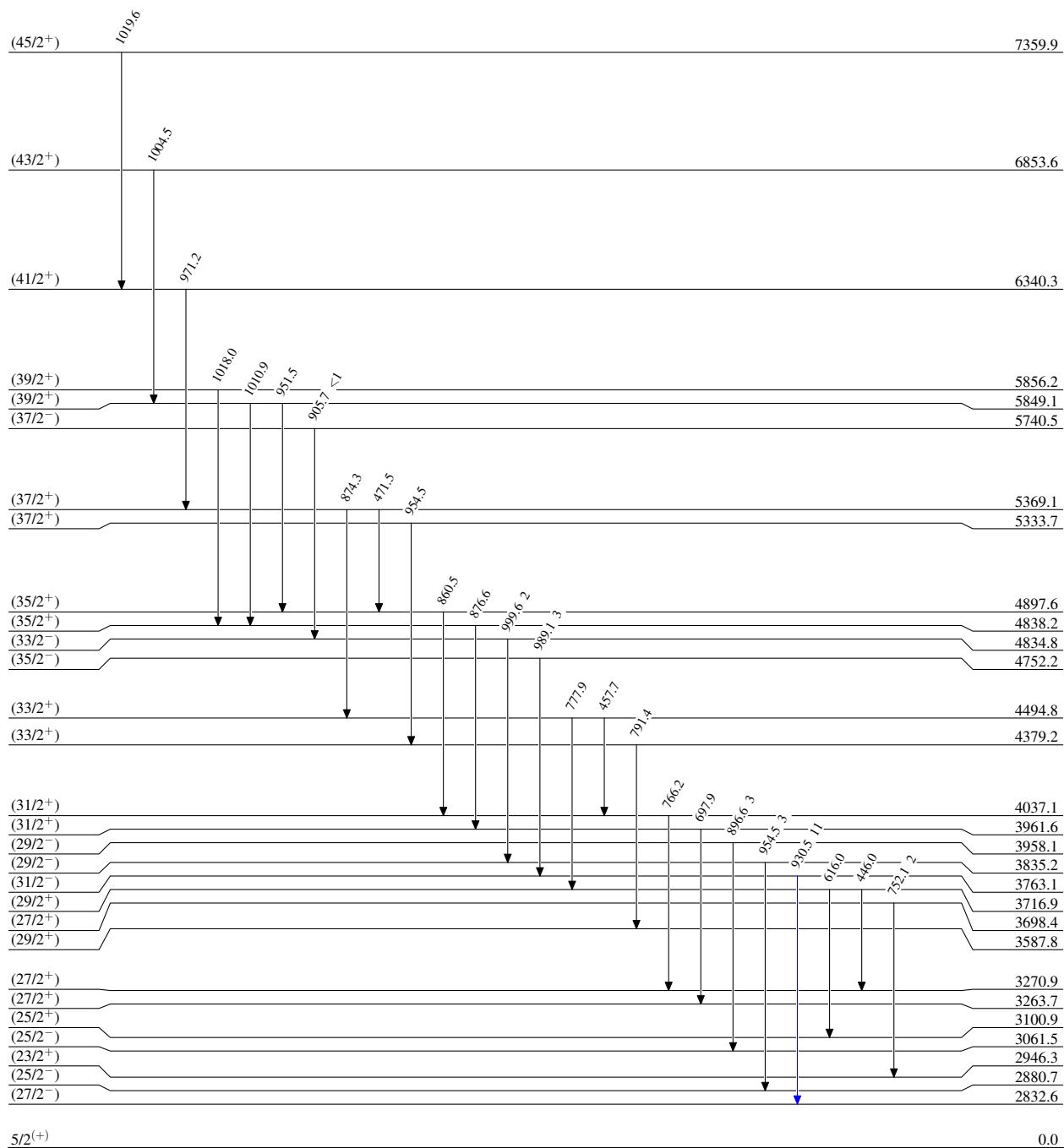
$^{109}\text{Ag}(^{16}\text{O,p}3n\gamma)$ 1999Mo06

Level Scheme

Intensities: Relative I_γ

Legend

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



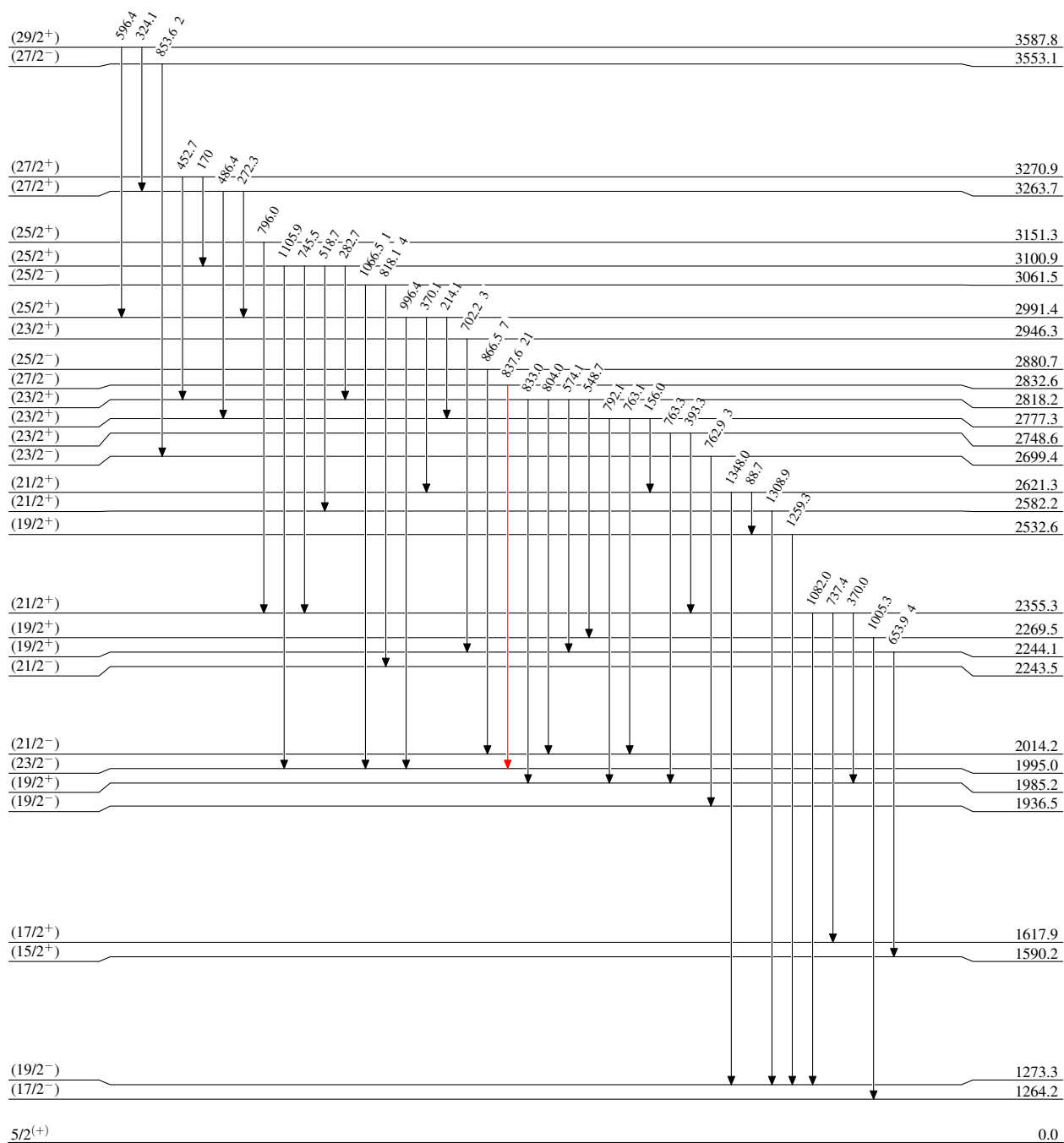
$^{109}\text{Ag}(^{16}\text{O,p3n}\gamma)$ 1999Mo06

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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



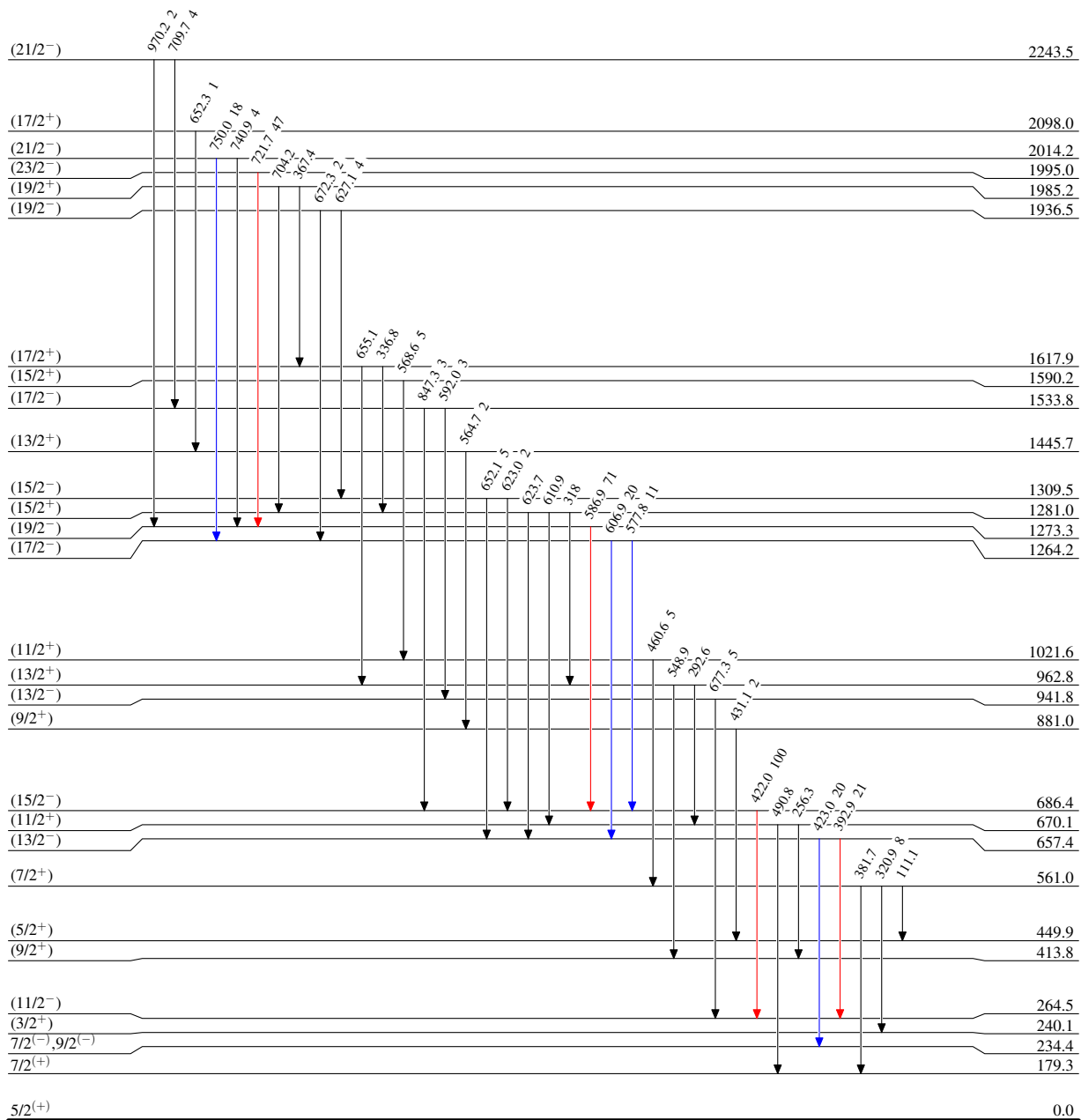
$^{109}\text{Ag}(^{16}\text{O,p3n}\gamma)$ 1999Mo06

Level Scheme (continued)

Intensities: Relative I_γ

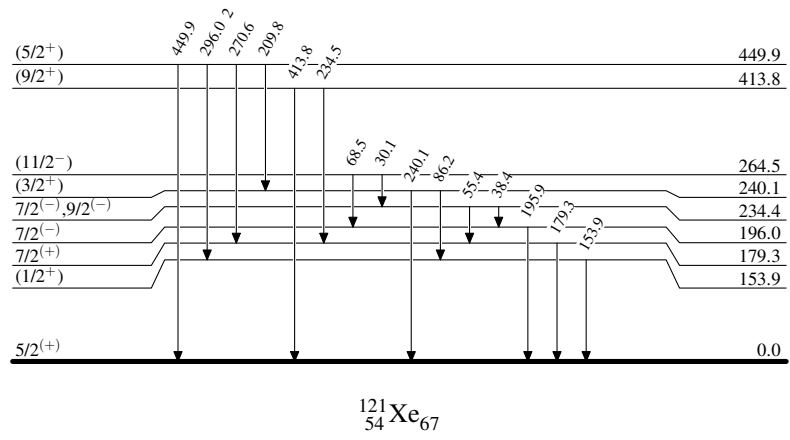
Legend

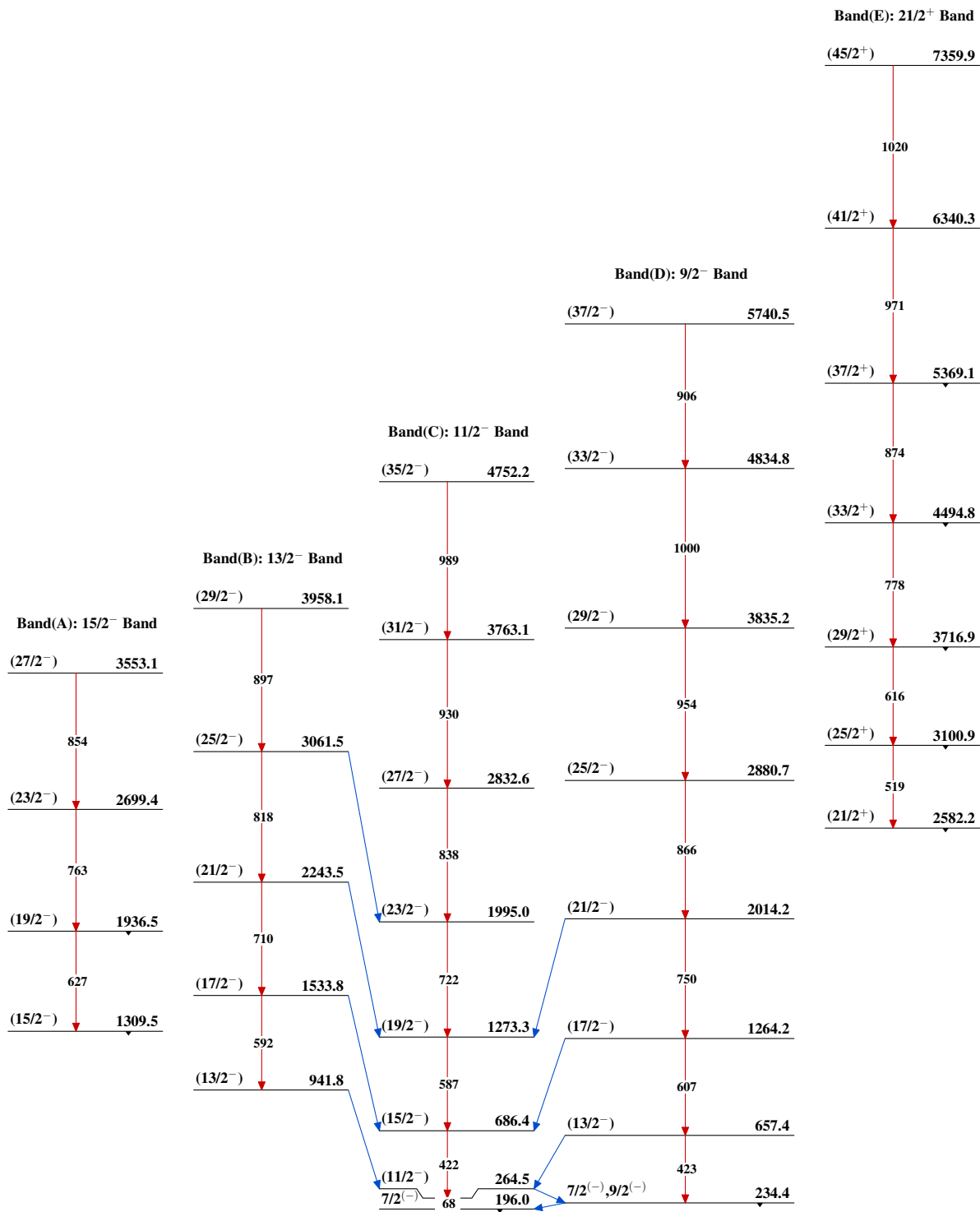
- $I_\gamma < 2\% \times I_\gamma^{\max}$
- $I_\gamma < 10\% \times I_\gamma^{\max}$
- $I_\gamma > 10\% \times I_\gamma^{\max}$

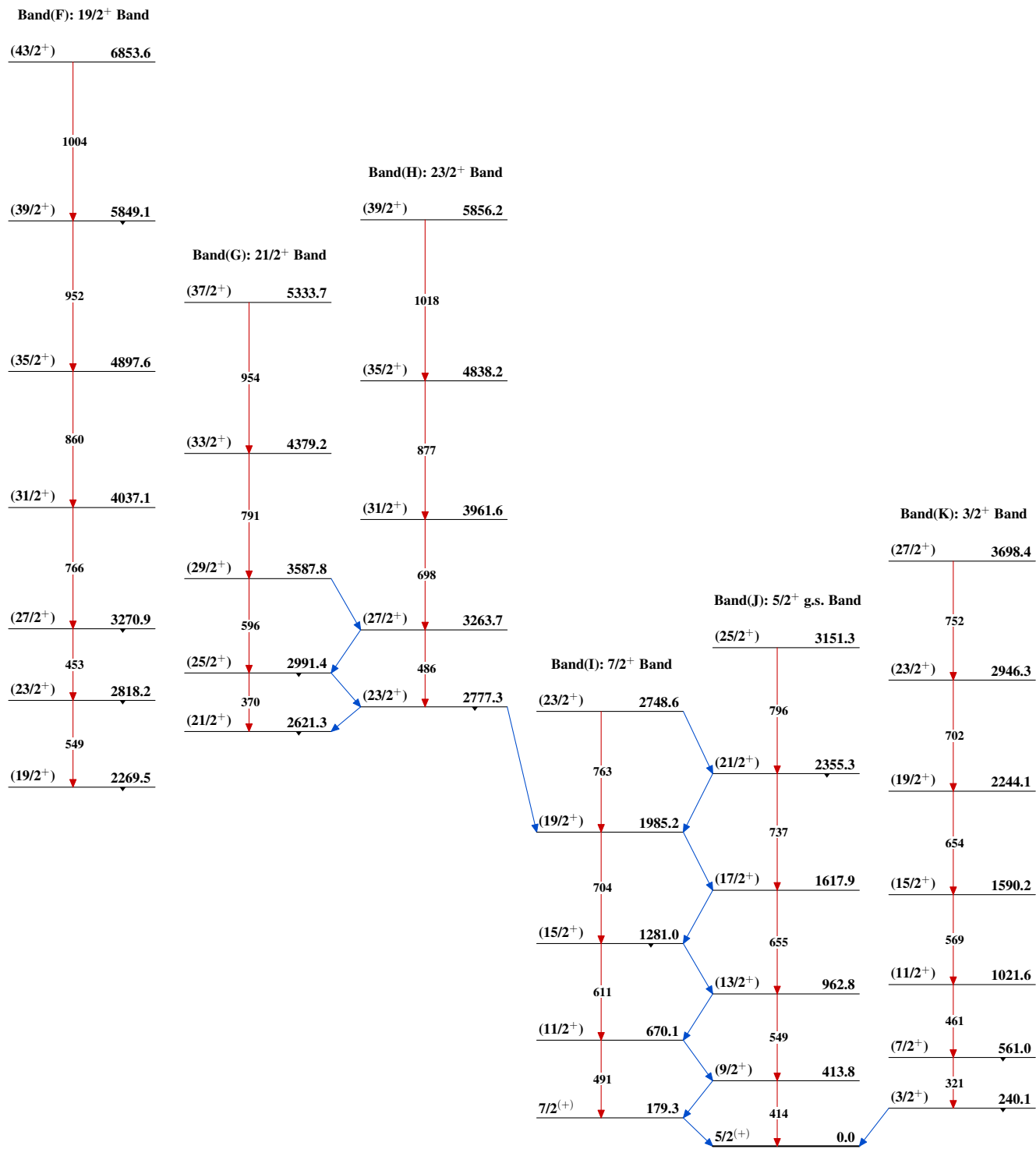


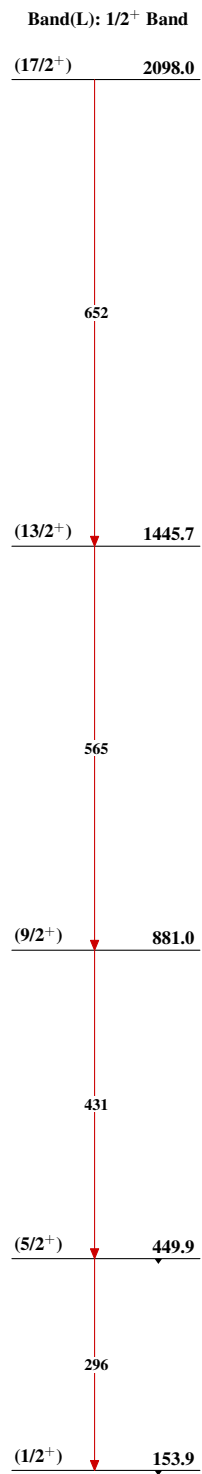
$^{109}\text{Ag}(^{16}\text{O},\text{p}3\text{n}\gamma)$ 1999Mo06

Level Scheme (continued)

Intensities: Relative I_γ  $^{121}_{54}\text{Xe}_{67}$

$^{109}\text{Ag}(^{16}\text{O,p3n}\gamma)$ 1999Mo06 $^{121}_{54}\text{Xe}_{67}$

$^{109}\text{Ag}(^{16}\text{O},\text{p}3\text{n}\gamma)$ 1999Mo06 (continued) $^{121}_{54}\text{Xe}_{67}$

$^{109}\text{Ag}(^{16}\text{O},\text{p}3\text{n}\gamma)$ 1999Mo06 (continued) $^{121}_{54}\text{Xe}_{67}$