

^{134}Pr ε decay: mixed source 2000Ga24

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. A. Sonzogni	NDS 103, 1 (2004)	31-Jul-2004

Parent: ^{134}Pr : E=0.0+x; $J^\pi=2^-$; $T_{1/2}=17$ min 2; $Q(\varepsilon)=6320$ 40; $\% \varepsilon + \% \beta^+$ decay=?

Parent: ^{134}Pr : E=0.0+y; $J^\pi=(6^-)$; $T_{1/2}\approx 11$ min; $Q(\varepsilon)=6320$ 40; $\% \varepsilon + \% \beta^+$ decay=?

 ^{134}Ce Levels

E(level)	$J^\pi^\dagger$	E(level)	$J^\pi^\dagger$	E(level)	$J^\pi^\dagger$	E(level)
0.0 ‡	0 ⁺	2158.5		2654.8		3198.6
409.1 ‡	2 ⁺	2170.2		2706.7	(7 ⁻)	3260.9
965.4 $^\#$	2 ⁺	2174.3	(5 ⁻)	2767.7 $^\#$	7 ⁺	3288.6
1048.6 ‡	4 ⁺	2206.2		2772.7		3299.6
1382.5 $^\#$	3 ⁺	2246.8		2810.7 ‡	8 ⁺	3306.3
1533.3 $^\circ$	0 ⁺	2260.7		2820.7		3317.4
1571.6		2271.8		2839.7		3466.4
1643.4 $^\#$	4 ⁺	2303.6 $^\#$	(6 ⁺)	2896.2		3592.0
1774.9		2313.5		2948.0		3592.3
1811.8 $^\&$	4 ⁺	2338.6		2969.0		3657.3
1862.9 ‡	6 ⁺	2358.9	(6 ⁻)	3017.4 $^\#$	8 ⁺	3663.2
1903.7		2361.3	(6 ⁺)	3032.1		3865.4
1964.3 $^\circ$	2 ⁺	2473.7	(6 ⁻)	3068.3		3895.3
2027.1 $^\&$	5 ⁺	2545.0	(3 ⁺)	3072.8		4108.0
2050.0 $^\#$	5 ⁺	2565.7	(7 ⁻)	3140.8		

† As given by 2000Ga24.

‡ Band(A): Ground State band.

$^\#$ Band(B): Quasi γ -band.

$^\circ$ Band(C): K=0 band.

$^\&$ Band(D): k=4 band.

 $\gamma(^{134}\text{Ce})$

$E_i(\text{level})$	J_i^π	E_γ	$I_\gamma^\dagger$	E_f	J_f^π	Mult.	$\delta^\ddagger$
409.1	2 ⁺	409.1		0.0	0 ⁺		
965.4	2 ⁺	556.3	100	409.1	2 ⁺	M1+E2	10 +100-4
		965.4	85	0.0	0 ⁺		
1048.6	4 ⁺	639.5		409.1	2 ⁺		
1382.5	3 ⁺	334.1	11.3	1048.6	4 ⁺		
		417.1	19.3	965.4	2 ⁺	M1+E2	6.0 +22-14
		973.4	100	409.1	2 ⁺	M1+E2	4.0 +3-2
1533.3	0 ⁺	567.9	100	965.4	2 ⁺		
		1124.2	≤ 82	409.1	2 ⁺		
1571.6		189.1		1382.5	3 ⁺		
		1162.5		409.1	2 ⁺		
1643.4	4 ⁺	260.9		1382.5	3 ⁺		
		594.7	29	1048.6	4 ⁺	M1+E2	10 +100-5
		677.9	100	965.4	2 ⁺		
		1234.3	12	409.1	2 ⁺		
1774.9		809.5		965.4	2 ⁺		

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^{134}Pr ε decay: mixed source **2000Ga24** (continued) $\gamma(^{134}\text{Ce})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ	$I_\gamma^\dagger$	E_f	J_f^π	Mult.	$\delta^\ddagger$
1774.9		1365.7		409.1	2 ⁺		
1811.8	4 ⁺	168.5	7.5	1643.4	4 ⁺	M1+E2	0.24 +19-3
		429.4	55	1382.5	3 ⁺		
		763.2	100	1048.6	4 ⁺		
		846.4	48	965.4	2 ⁺		
		1402.7	9	409.1	2 ⁺		
1862.9	6 ⁺	814.3		1048.6	4 ⁺		
1903.7		855.1		1048.6	4 ⁺		
		1494.6		409.1	2 ⁺		
1964.3	2 ⁺	430.9		1533.3	0 ⁺		
		998.9		965.4	2 ⁺		
		1555.2		409.1	2 ⁺		
		1964.3		0.0	0 ⁺		
2027.1	5 ⁺	123.4		1903.7			
		215.3	100	1811.8	4 ⁺		
		383.9	52	1643.4	4 ⁺		
		644.6	17	1382.5	3 ⁺		
		978.6	58	1048.6	4 ⁺	M1+E2	0.50 4
2050.0	5 ⁺	238.2		1811.8	4 ⁺		
		406.7		1643.4	4 ⁺		
		667.5	100	1382.5	3 ⁺		
		1001.4	≤57	1048.6	4 ⁺	M1+E2	1.86 +22-26
2158.5		346.7		1811.8	4 ⁺		
2170.2		358.4		1811.8	4 ⁺		
		526.9		1643.4	4 ⁺		
		787.5		1382.5	3 ⁺		
		1121.6		1048.6	4 ⁺		
2174.3	(5 ⁻)	270.6		1903.7			
		311.4		1862.9	6 ⁺		
		530.9		1643.4	4 ⁺		
		1125.7		1048.6	4 ⁺		
2206.2		1157.6		1048.6	4 ⁺		
		1797.1		409.1	2 ⁺		
2246.8		1198.1		1048.6	4 ⁺		
2260.7		878.2		1382.5	3 ⁺		
		1295.2		965.4	2 ⁺		
2271.8		460.0		1811.8	4 ⁺		
2303.6	(6 ⁺)	253.7	3.5	2050.0	5 ⁺	M1+E2	0.064 24
		440.6	2.5	1862.9	6 ⁺		
		660.2	100	1643.4	4 ⁺		
		1255.0	5.2	1048.6	4 ⁺		
2313.5		1904.3		409.1	2 ⁺		
2338.6		1290.0		1048.6	4 ⁺		
2358.9	(6 ⁻)	184.6		2174.3	(5 ⁻)		
		188.7		2170.2			
		308.9		2050.0	5 ⁺		
		331.9		2027.1	5 ⁺		
2361.3	(6 ⁺)	187.0		2174.3	(5 ⁻)		
		334.2	100	2027.1	5 ⁺		
		549.5	7.6	1811.8	4 ⁺		
		717.9	3.2	1643.4	4 ⁺		
		1312.8	6.5	1048.6	4 ⁺		
2473.7	(6 ⁻)	170.1		2303.6	(6 ⁺)		
		299.3		2174.3	(5 ⁻)		
		315.5		2158.5			
		446.7		2027.1	5 ⁺		

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^{134}Pr ε decay: mixed source **2000Ga24** (continued) $\gamma(^{134}\text{Ce})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ	$I_\gamma^\dagger$	E_f	J_f^π	$E_i(\text{level})$	J_i^π	E_γ	E_f	J_f^π
2545.0	(3 ⁺)	231.3		2313.5		2896.2		537.1	2358.9	(6 ⁻)
		370.7		2174.3	(5 ⁻)	2948.0		589.1	2358.9	(6 ⁻)
		518.0		2027.1	5 ⁺	2969.0		403.3	2565.7	(7 ⁻)
		580.7		1964.3	2 ⁺			610.1	2358.9	(6 ⁻)
		1162.3		1382.5	3 ⁺	3017.4	8 ⁺	713.8	2303.6	(6 ⁺)
		1580.0		965.4	2 ⁺	3032.1		670.6	2361.3	(6 ⁺)
		2136.0		409.1	2 ⁺			673.3	2358.9	(6 ⁻)
2565.7	(7 ⁻)	206.7		2358.9	(6 ⁻)	3068.3		709.4	2358.9	(6 ⁻)
		262.2		2303.6	(6 ⁺)	3072.8		261.9	2810.7	8 ⁺
		391.5		2174.3	(5 ⁻)	3140.8		837.3	2303.6	(6 ⁺)
2654.8		293.5		2361.3	(6 ⁺)			1278.0	1862.9	6 ⁺
		480.5		2174.3	(5 ⁻)			1329.1	1811.8	4 ⁺
2706.7	(7 ⁻)	141.1		2565.7	(7 ⁻)			1498.0	1643.4	4 ⁺
		233.1		2473.7	(6 ⁻)			2092.0	1048.6	4 ⁺
		347.6		2358.9	(6 ⁻)	3198.6		895.0	2303.6	(6 ⁺)
		403.1		2303.6	(6 ⁺)	3260.9		1210.9	2050.0	5 ⁺
		532.4		2174.3	(5 ⁻)			1233.9	2027.1	5 ⁺
2767.7	7 ⁺	464.3	2.2	2303.6	(6 ⁺)	3288.6		930.0	2358.9	(6 ⁻)
		717.9	95	2050.0	5 ⁺	3299.6		459.5	2839.7	
		904.8	100	1862.9	6 ⁺	3306.3		761.3	2545.0	(3 ⁺)
2772.7		598.4		2174.3	(5 ⁻)	3317.4		956.0	2361.3	(6 ⁺)
2810.7	8 ⁺	245.2		2565.7	(7 ⁻)	3466.4		2417.9	1048.6	4 ⁺
		449.3		2361.3	(6 ⁺)	3592.0		1817.1	1774.9	
		948.0		1862.9	6 ⁺	3592.3		1233.7	2358.9	(6 ⁻)
2820.7		517.1		2303.6	(6 ⁺)	3657.3		589.4	3068.3	
2839.7		1028.0		1811.8	4 ⁺	3663.2		2697.7	965.4	2 ⁺
		1196.5		1643.4	4 ⁺	3865.4		1561.9	2303.6	(6 ⁺)
		1791.1		1048.6	4 ⁺	3895.3		578.0	3317.4	
2896.2		422.6		2473.7	(6 ⁻)	4108.0		1634.6	2473.7	(6 ⁻)

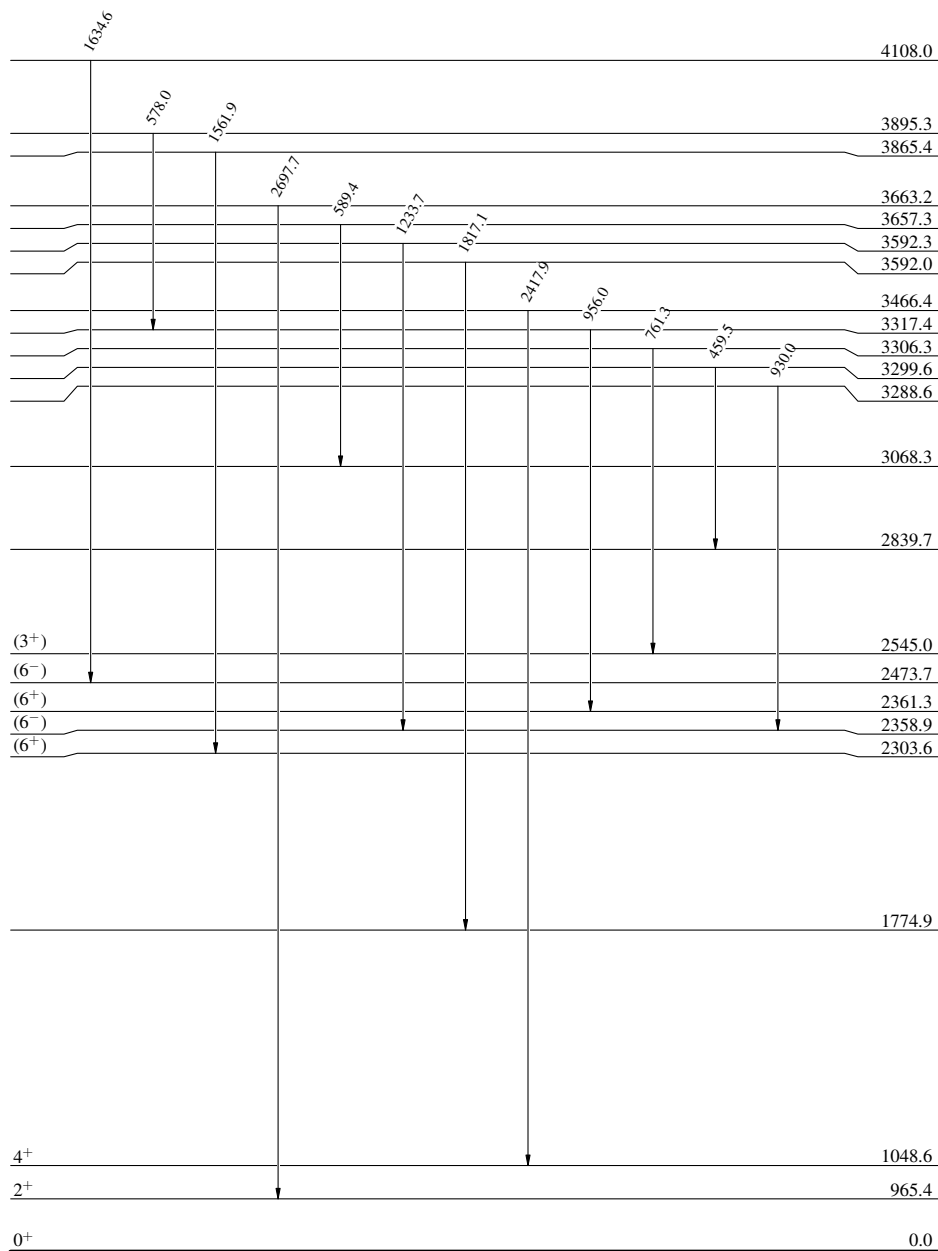
[†] Photon branching ratios, $\Delta I_\gamma \approx 20\%$, unless noted otherwise.[‡] From $\gamma\gamma(\theta)$.

^{134}Pr ϵ decay: mixed source 2000Ga24

Decay Scheme

Intensities: Relative photon branching from each level

(6^-) 0.0+y ≈ 11 min
 $Q_\epsilon = 6320\ 40$
 $\% \epsilon + \% \beta^+ = ?$
 (2^-) 0.0+x 17 min 2
 $Q_\epsilon = 6320\ 40$
 $\% \epsilon + \% \beta^+ = ?$
 $^{134}_{59}\text{Pr}_{75}$

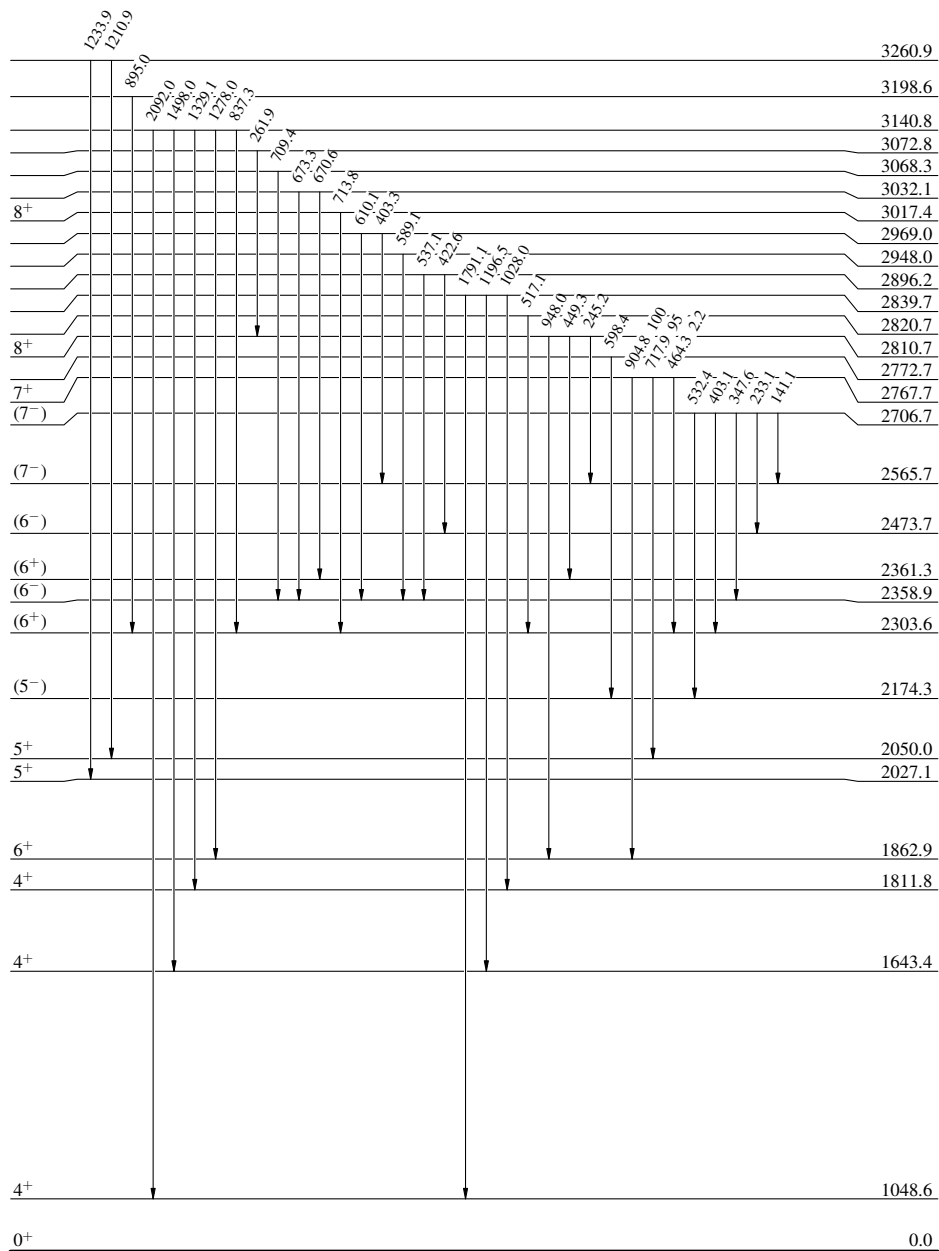

 $^{134}_{58}\text{Ce}_{76}$

^{134}Pr ϵ decay: mixed source 2000Ga24

Decay Scheme (continued)

Intensities: Relative photon branching from each level

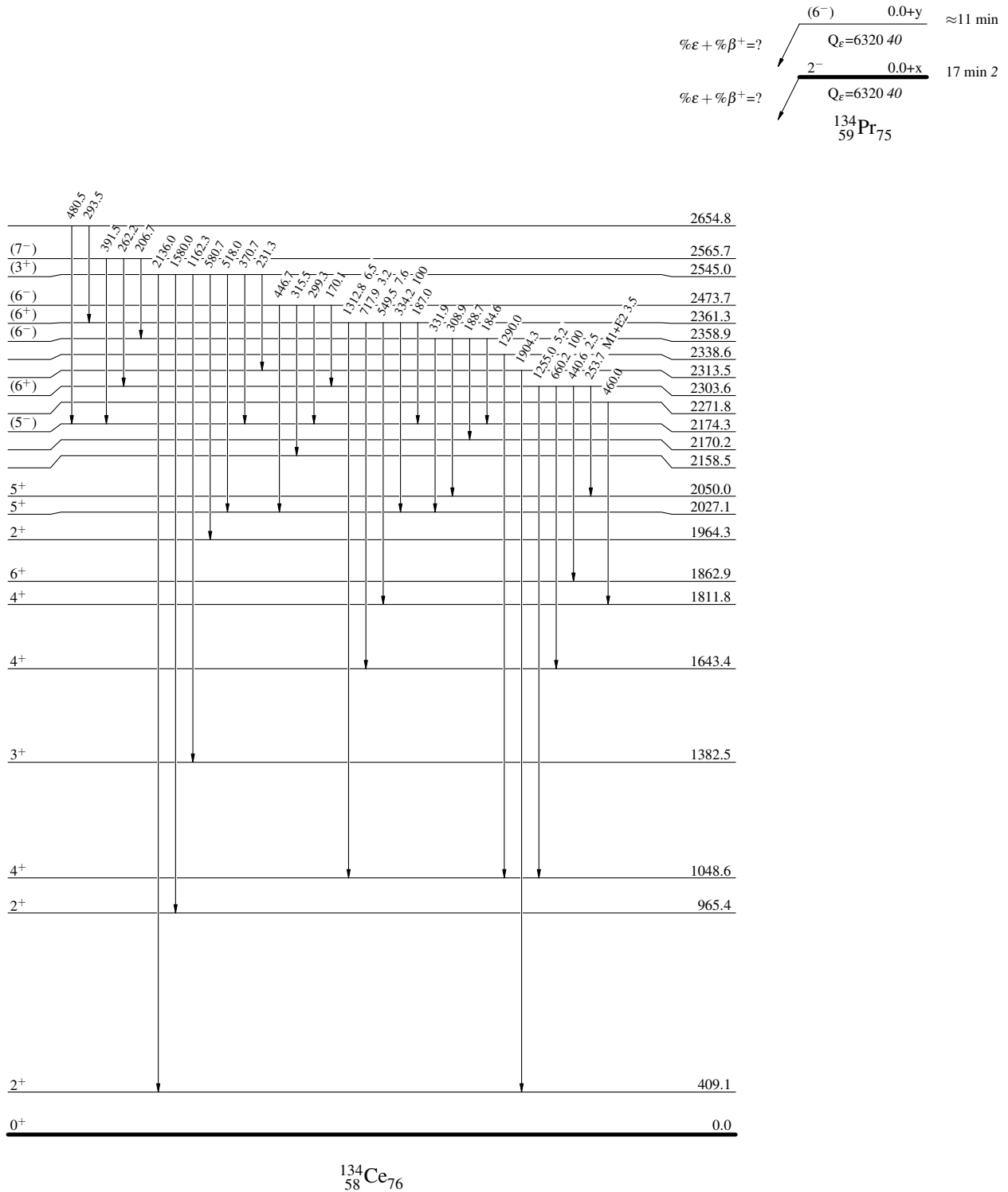
(6^-) 0.0+y ≈ 11 min
 $Q_\epsilon = 6320.40$
 $\% \epsilon + \% \beta^+ = ?$
 (2^-) 0.0+x 17 min 2
 $Q_\epsilon = 6320.40$
 $\% \epsilon + \% \beta^+ = ?$
 $^{134}_{59}\text{Pr}_{75}$

 $^{134}_{58}\text{Ce}_{76}$

^{134}Pr ϵ decay: mixed source 2000Ga24

Decay Scheme (continued)

Intensities: Relative photon branching from each level

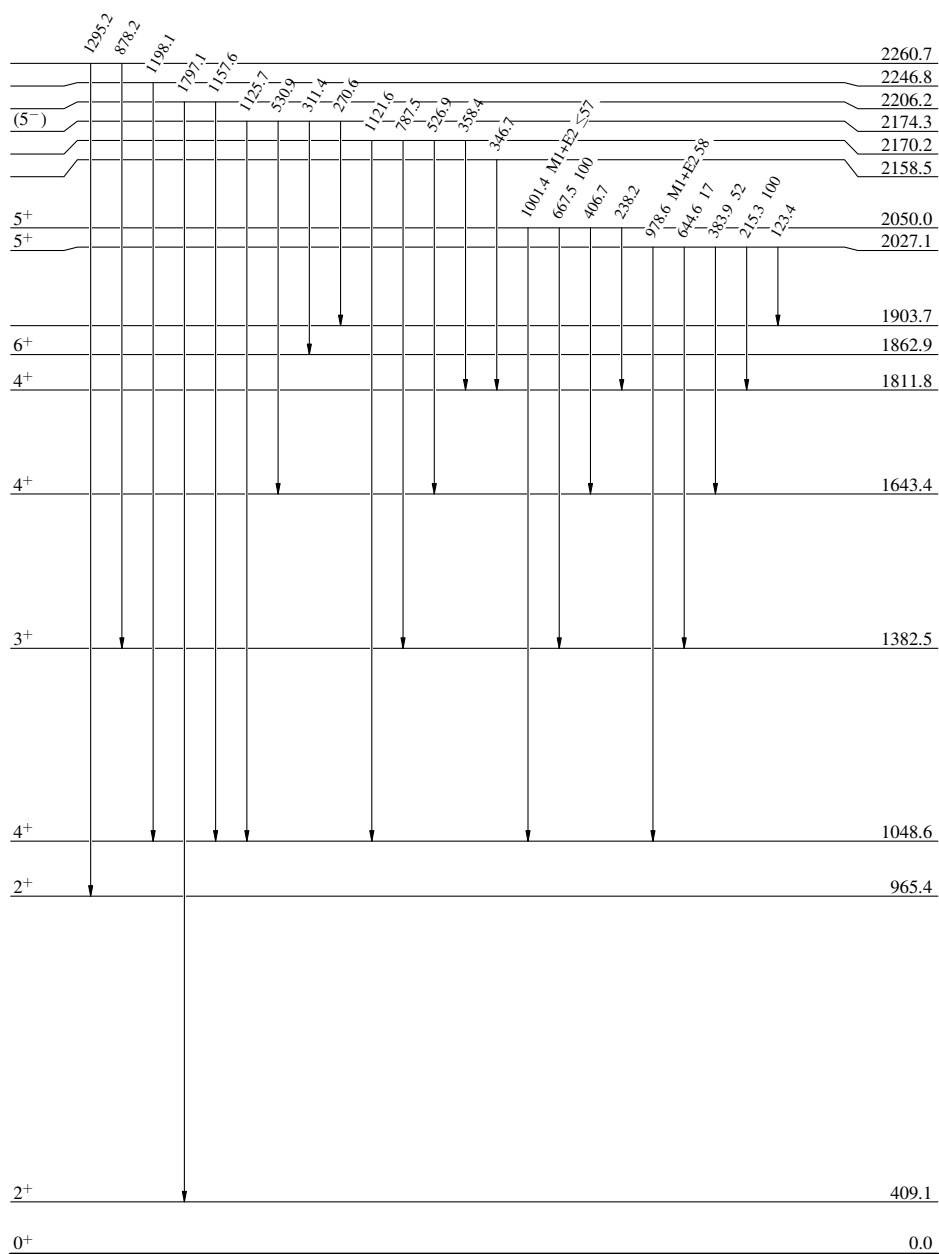


^{134}Pr ϵ decay: mixed source 2000Ga24

Decay Scheme (continued)

Intensities: Relative photon branching from each level

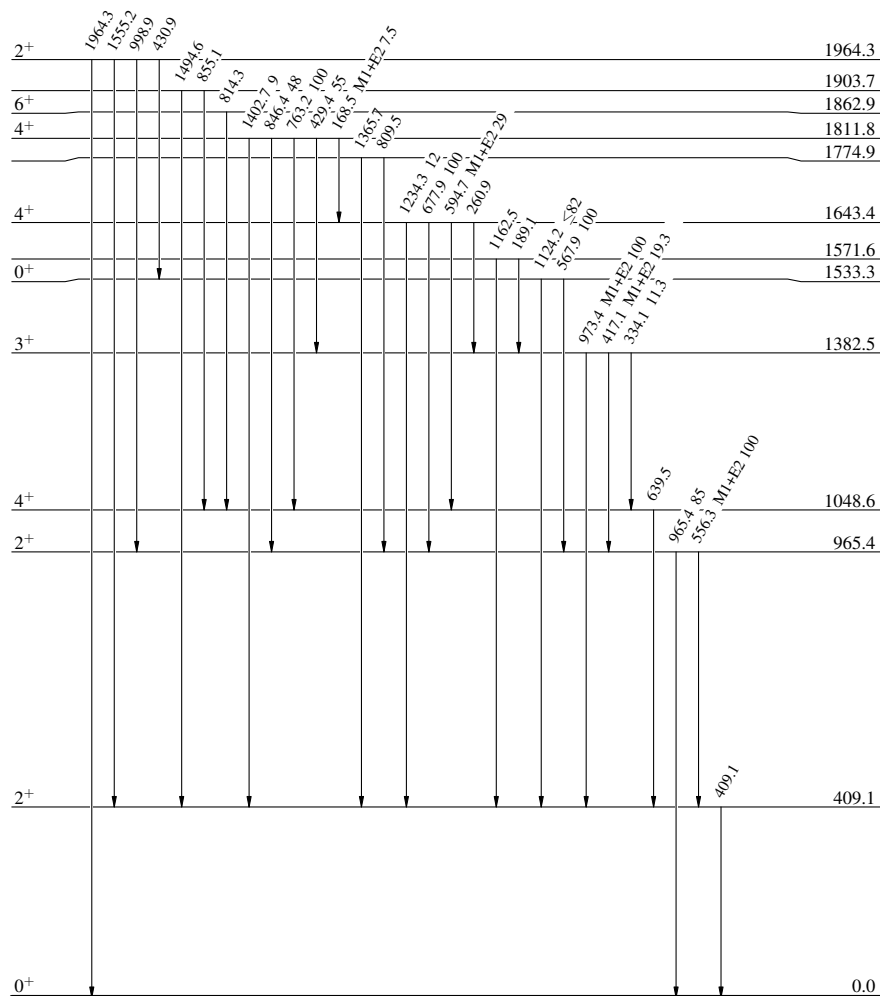
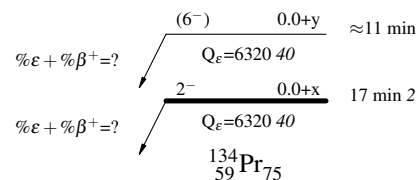
(6^-) 0.0+y ≈ 11 min
 $\% \epsilon + \% \beta^+ = ?$ $Q_\epsilon = 6320$ 40
 2^- 0.0+x 17 min 2
 $\% \epsilon + \% \beta^+ = ?$ $Q_\epsilon = 6320$ 40
 $^{134}_{59}\text{Pr}_{75}$

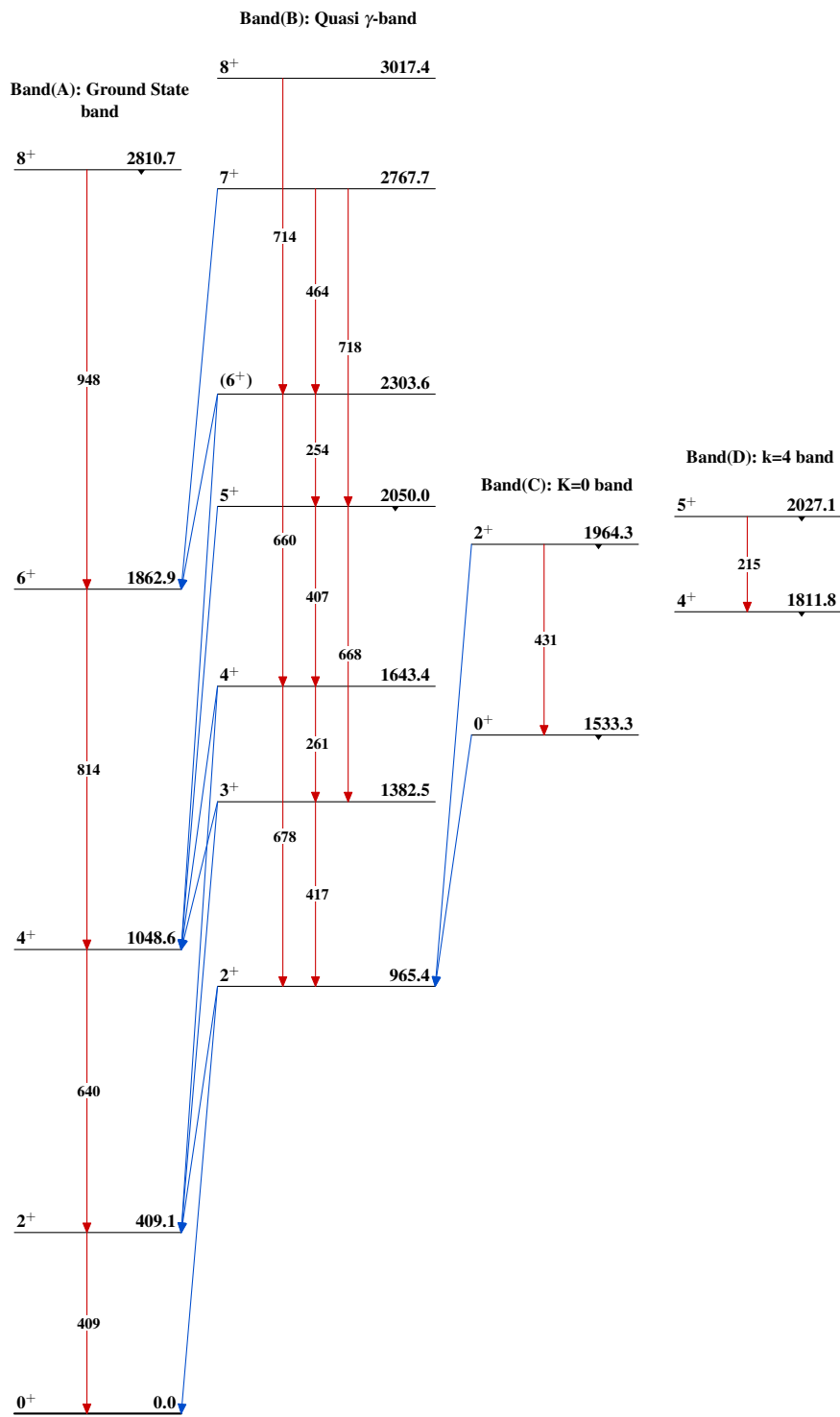

 $^{134}_{58}\text{Ce}_{76}$

^{134}Pr ϵ decay: mixed source 2000Ga24

Decay Scheme (continued)

Intensities: Relative photon branching from each level


 $^{134}_{58}\text{Ce}_{76}$

^{134}Pr ε decay: mixed source 2000Ga24 $^{134}_{58}\text{Ce}_{76}$