Adopted Levels, Gammas

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yu. Khazov and A. Rodionov, F. G. Kondev	NDS 112,855 (2011)	31-Oct-2010

Q(β^-)=−5.61×10^3 *5*; S(n)=1.080×10^4 *6*; S(p)=2756 *24*; Q(α)=962 *25* 2012Wa38
Note: Current evaluation has used the following Q record −5605 48 *10795* 58 *2753* 24 *964* 24 2009AuZZ.

^{133}Pr Levels

Cross Reference (XREF) Flags

A	^{133}Pr IT decay	D	(HI,xnγ)
B	^{133}Nd ε decay (70 s)	E	(HI,xnγ):SD
C	^{133}Nd ε decay (≈70 s)		

E(level)†	J$^\pi$‡	T$_{1/2}$#	XREF	Comments
0.0	(3/2$^+$)	6.5 min *3*	ABCDE	%ε+%β^+=100 T$_{1/2}$: from 1972ArZP. Other: 7 s *3* (1970Ab07). J$^\pi$: the cascade 130.4γ E3→61.7γ M1 following the decay of the (11/2$^-$) isomer; direct population of the 1/2$^+$ level at 465 keV in ^{133}Ce following ^{133}Pr ε decay and systematics in Pr isotopes (^{139}Pr at 405 keV, ^{137}Pr at 76 keV, ^{135}Pr at g.s). Note, that direct measurements using atomic beam magnetic resonance technique in 1972Ek04 suggest J=5/2$^{(+)}$. configuration: π3/2[411] (d$_{5/2}$).
61.68@ *7*	(5/2$^+$)		ABCD	J$^\pi$: 61.7γ M1 to (3/2$^+$), band-head assignment. configuration: π5/2[413] (g$_{7/2}$).
166.70 *7*	(5/2$^+$,7/2$^+$)		BC	J$^\pi$: 105.1γ M1+E2 to (5/2$^+$), 166.7γ to (3/2$^+$).
192.12a *14*	(11/2$^-$)	1.1 s *2*	ABCD	%IT=100 J$^\pi$: 130.4γ E3 to (5/2$^+$); band-head of the yrast band. T$_{1/2}$: from 61.7γ(t) and 130.4γ(t) in 2001Xu04. configuration: π3/2[541] (h$_{11/2}$) α=−1/2; strongly Coriolis mixed.
225.86& *8*	(7/2$^+$)		B D	J$^\pi$: 164.21γ M1(+E2) to (5/2$^+$); band assignment.
295.63 *10*	(7/2$^-$)		BC	J$^\pi$: 103.6γ E2 to (11/2$^-$), 233.9γ E1 to (5/2$^+$).
402.78 *10*	(1/2$^+$,3/2$^+$)		C	J$^\pi$: 402.8γ M1 to (3/2$^+$); non-observation in ^{133}Nd ε decay (70 s) (J^π=(7/2$^+$)).
428.57 *8*	(5/2$^+$,7/2$^+$)		B D	J$^\pi$: 367.0γ M1(+E2) to (5/2$^+$); direct population in ^{133}Nd ε decay (70 s) (J^π=(7/2$^+$)).
475.84@ *9*	(9/2$^+$)		B D	J$^\pi$: 250.0γ M1(+E2) to (7/2$^+$), 414.3γ E2 to (5/2$^+$); band assignment.
488.30 *10*	(5/2,7/2$^+$)		B	J$^\pi$: 262.5γ to (7/2$^+$), 488.3γ to (3/2$^+$); direct population in ^{133}Nd ε decay (70 s) (J^π=(7/2$^+$)).
489.80? *20*	(3/2)		C	J$^\pi$: 489.8γ to (3/2$^+$); non-observation in ^{133}Nd ε decay (70 s) (J^π=(7/2$^+$)).
502.29a *16*	(15/2$^-$)	44.5 ps *27*	D	J$^\pi$: 310.14γ E2 to (11/2$^-$); band structure. T$_{1/2}$: Using the recoil-distance Doppler shift method in 1999Kl11.
551.36 *13*	(11/2$^-$)		B	J$^\pi$: 225.7γ to (7/2$^-$), 359.1γ to (11/2$^-$); the level is not populated directly in ^{133}Nd ε decay (70 s) (J^π=(7/2$^+$)), which may argue against jp=7/2$^-$,9/2.
586.31 *11*	(3/2$^+$)		C	J$^\pi$: 419.6γ M1+E2 to (5/2$^+$,7/2$^+$); non-observation in ^{133}Nd ε decay (70 s) (J^π=(7/2$^+$)).
619.10 *9*	(5/2$^+$,7/2$^+$)		B	J$^\pi$: 393.3γ M1(+E2) to (7/2$^+$); a lack of γ-ray transition to 11/2$^-$ would argue against J^π=9/2$^+$.
639.06 *11*	(1/2,3/2)		C	J$^\pi$: 639.1γ to (3/2$^+$); non-observation in ^{133}Nd ε decay (70 s) (J^π=(7/2$^+$)).
656.4 *4*			C	
679.20 *19*			B	
702.43& *10*	(11/2$^+$)		B D	J$^\pi$: 226.6γ to (9/2$^+$), 476.6γ E2 to (7/2$^+$); band structure.
744.01 *8*	(1/2$^+$,3/2)		C	J$^\pi$: 682.3γ to (5/2$^+$); non-observation in ^{133}Nd ε decay (70 s) (J^π=(7/2$^+$)).

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Adopted Levels, Gammas (continued)

^{133}Pr Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	XREF	Comments
753.12 *10*	(5/2,7/2$^+$)		B	Jπ: 753.1γ to (3/2$^+$), 527.2γ to (7/2$^+$); non-observation in ^{133}Nd ε decay (70 s) (Jπ=(1/2$^+$)).
790.52 *22*	(13/2$^-$)		D	Jπ: 598.6γ D+Q, ΔJ=1 to (11/2$^-$) and 288.3γ to (15/2$^-$). configuration: Probably π3/2[541] ($h_{11/2}$) prolate band, α=+1/2.
859.7 *4*	(5/2,7/2,9/2)		B	Jπ: 564.1γ to (7/2$^-$); direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).
862.96 *11*	(5/2$^+$,7/2,9/2$^+$)		B	Jπ: 801.0γ to (5/2$^+$), 387.4γ to (9/2$^+$); direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).
872.17 *12*	(5/2$^+$,7/2$^+$)		B	Jπ: 872.2γ to (3/2$^+$), 396.3γ to (9/2$^+$); direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).
898.81 *17*			BC	
903.59 *15*	(5/2$^+$,7/2$^+$)		B	Jπ: 903.7γ to (3/2$^+$), 428.1γ to (9/2$^+$); direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).
910.97 *18*	(5/2,7/2,9/2)		B	Jπ: 615.2γ to (7/2$^-$); direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).
916.46 *24*	(7/2$^-$,9/2)		B	Jπ: 365.1γ to (11/2$^-$); direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).
938.46 *23*	(15/2$^-$)		D	Jπ: 746.4γ to (11/2$^-$), 435.8γ to (15/2$^-$).
939.2 *4*	(7/2$^-$,9/2$^+$)		B	Jπ: 877.6γ to (5/2$^+$); direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).
977.2 *5*	(5/2,7/2$^+$)		B	Jπ: 977.3γ to (3/2$^+$); direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).
984.39 *11*	(5/2$^+$,7/2,9/2$^+$)		B	Jπ: 508.6γ to (9/2$^+$), 922.8γ to (5/2$^+$); direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).
1001.62 *16*	(5/2$^+$,7/2,9/2$^+$)		B	Jπ: 525.7γ to (9/2$^+$), 939.9γ to (5/2$^+$); direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).
1027.22 *12*	(5/2$^+$,7/2,9/2)		B	Jπ: 551.2γ to (9/2$^+$); direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).
1041.99 *22*	(1/2,3/2)		C	Jπ: 639.2γ to (1/2$^+$,3/2$^+$); non-observation in ^{133}Nd ε decay (70 s).
1053.74[a] *17*	(19/2$^-$)	2.37 ps *7*	D	Jπ: 551.4γ E2 to (15/2$^-$); band assignment. $T_{1/2}$: Using recoil-distance Doppler shift method in 1999Kl11.
1055.65 *9*	(7/2$^+$,9/2$^+$)		B	Jπ: 353.3γ to (11/2$^+$), 993.5γ to (5/2$^+$); direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).
1058.31 *12*	(5/2,7/2,9/2)		B	Jπ: 832.5γ to (7/2$^+$); direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).
1081.45[@] *20*	(13/2$^+$)		D	Jπ: 379γ to (11/2$^+$), 605.6γ to (9/2$^+$); band assignment.
1129.9 *4*	(7/2$^-$,9/2)		B	Jπ: 578.4γ to (11/2$^-$), 963.4γ to (5/2$^+$,7/2$^+$); direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).
1167.11 *13*	(5/2,7/2,9/2$^+$)		B	Jπ: 1105.4γ to (5/2$^+$); direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).
1171.74[q] *21*	(15/2$^-$)		D	Jπ: 381.0γ to (13/2$^-$).
1188.4 *4*	(5/2$^+$,7/2,9/2)		B	Jπ: 712.5γ to (9/2$^+$); direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).
1220.4? *6*			C	
1231.51 *25*	(5/2,7/2,9/2$^+$)		B	Jπ: 1169.9γ to (5/2$^+$); direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).
1255.30 *23*	(5/2,7/2,9/2)		B	Jπ: direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).
1265.46 *21*	(17/2$^-$)		D	Jπ: 763.3γ M1+E2 to (15/2$^-$), 212.0γ to (19/2$^-$), 475.2γ to (13/2$^-$).
1284.1 *4*	(5/2$^+$,7/2,9/2)		B	Jπ: 808.3γ to (9/2$^+$); direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).
1295.7? *4*			B	
1297.3 *3*	(7/2$^+$,9/2)		B	Jπ: 594.8γ to (11/2$^+$); direct population in ^{133}Nd ε decay (70 s) (Jπ=(7/2$^+$)).

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Adopted Levels, Gammas (continued)

^{133}Pr Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	XREF	Comments
1308.5 *3*			B	
1312.7 *4*			B	
1325.39[&] *19*	(15/2$^+$)		D	Jπ: 244γ to (13/2$^+$), 623.1γ E2 to (11/2$^+$); band assignment.
1325.54 *16*	(5/2$^+$,7/2$^+$)		B	Jπ: 1325.7γ to (3/2$^+$), 850.1γ to (9/2$^+$); direct population in ^{133}Nd ε decay (70 s) (J^π=(7/2$^+$)).
1366.5 *4*			B	
1428.2 *3*			B	
1431.3 *4*			B	
1648.31 *20*	(19/2$^-$)		D	Jπ: 1146.1γ to (15/2$^-$), 594.5γ to (19/2$^-$); assignment is tentative.
1656.73 *20*	(7/2$^+$,9/2)		B	Jπ: 954.5γ to (11/2$^+$); direct population in ^{133}Nd ε decay (70 s) (J^π=(7/2$^+$)).
1671.0[q] *5*	(19/2$^-$)		D	Jπ: 1169γ to (15/2$^-$), 617γ to (19/2$^-$); band assignment.
1706.03 *16*	(9/2$^+$)		B	Jπ: 833.8γ to (11/2$^+$), 1514.1γ to (11/2$^-$), 721.3γ to (5/2$^+$,7/2$^+$); direct population in ^{133}Nd ε decay (70 s) (J^π=(7/2$^+$)).
1723.03 *11*	(7/2$^-$,9/2)		B	Jπ: 1294.5γ to (5/2$^+$,7/2$^+$), 1171.6γ to (11/2$^-$); direct population in ^{133}Nd ε decay (70 s) (J^π=(7/2$^+$)).
1762.60[a] *19*	(23/2$^-$)		D	Jπ: 708.84γ E2 to (19/2$^-$).
1785.28 *12*	(9/2$^+$)		B	Jπ: 1723.2γ to (5/2$^+$), 1082.6γ to (11/2$^+$), 1233.8γ to (11/2$^-$); direct population in ^{133}Nd ε decay (70 s) (J^π=(7/2$^+$)).
1788.8[@] *3*	(17/2$^+$)		D	Jπ: 465γ to (15/2$^+$), 707.3γ to (13/2$^+$); band assignment.
1796.54 *14*			B	
1828.4? *5*			B	
1992.5[b] *3*	(19/2$^+$)		D	Jπ: 667.27γ E2 to (15/2$^+$).
2033.77[f] *22*	(21/2$^-$)	≤35 ns	D	Jπ: 768.44γ E2 to (17/2$^-$). $T_{1/2}$: from the prompt coincidence relationship between transitions depopulating the (21/2$^-$) state and in-band ones given the resolving time of 50 ns for the EUROGAM II spectrometer (2003Pa38). configuration: K^π=21/2$^-$, π5/2[413]⊗ν^2(7/2[404],9/2[514]).
2045.39[&] *25*	(19/2$^+$)		D	Jπ: 256γ to (17/2$^+$), 720.0γ to (15/2$^+$); band assignment.
2118.31 *14*	(7/2$^+$,9/2)		B	Jπ: 1892.5γ to (7/2$^+$), 1416.0γ to (11/2$^+$); direct population in ^{133}Nd ε decay (70 s) (J^π=(7/2$^+$)).
2179.8 *5*			B	
2203.30[g] *21*	(19/2$^+$)	≤35 ns	D	Jπ: 169.75γ E1 to (21/2$^-$), 1149.43γ E1 to (19/2$^-$). $T_{1/2}$: from the prompt coincidence relationship between transitions depopulating the (19/2$^+$) state and in-band ones given the resolving time of 50 ns for the EUROGAM II spectrometer (2003Pa38). configuration: K^π=19/2$^+$, π3/2[541]⊗ν^2(7/2[404],9/2[514]).
2330.9[q] *6*	(23/2$^-$)		D	Jπ: 568γ to (23/2$^-$), 1277γ to (19/2$^-$).
2352.20[h] *25*	(21/2$^+$)		D	Jπ: 148.88γ M1+E2 to (19/2$^+$), band assignment.
2356.4[c] *3*	(21/2$^+$)		D	Jπ: 1302.8γ E1 to (19/2$^-$), band assignment.
2445.09[b] *24*	(23/2$^+$)		D	Jπ: 452.5γ E2 to (19/2$^+$), 682.46γ E1 to (23/2$^-$), band assignment.
2473.98[e] *23*	(23/2$^-$)		D	Jπ: 440.2γ M1+E2 to (21/2$^-$), band assignment.
2554.7 *8*			B	
2575.03[a] *21*	(27/2$^-$)		D	Jπ: 812.44γ E2 to (23/2$^-$), band assignment.
2576.9[d] *7*	(23/2$^+$)		D	Jπ: 585γ to (19/2$^+$), 814γ to (23/2$^-$); band assignment.
2597.8[g] *3*	(23/2$^+$)		D	Jπ: 245.6γ M1+E2 to (21/2$^+$); band assignment.
2673.8 *11*			D	
2692.0? *8*	(21/2,23/2$^+$)		D	Jπ: 489γ to (19/2$^+$), 929γ to (23/2$^-$).
2722.0 *3*	(25/2$^-$)		D	Jπ: 959.4γ to (23/2$^-$); higher spin would require stronger population in (HI,xnγ).
2744.7[c] *3*	(25/2$^+$)		D	Jπ: 388.4γ to (21/2$^+$), 981.8γ to (23/2$^-$); band assignment.
2802.4[&] *11*	(23/2$^+$)		D	Jπ: 757γ to (19/2$^+$); band assignment.
2924.9[h] *3*	(25/2$^+$)		D	Jπ: 327.1γ M1+E2 to (23/2$^+$), 572.5γ to (21/2$^+$); band assignment.

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Adopted Levels, Gammas (continued)

^{133}Pr Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
2933.2[b] 4	(27/2+)	D	Jπ: 188γ to (25/2+), 488.1γ E2 to (23/2+); band assignment.
2953.88[f] 24	(25/2−)	D	Jπ: 479.9γ to (23/2−), 920.1γ to (21/2−); band assignment.
3078.2[q] 7	(27/2−)	D	Jπ: 504γ to (27/2−), 747γ to (23/2−); band assignment.
3192.5[d] 7	(27/2+)	D	Jπ: 616γ to (23/2+); band assignment.
3252.3[j] 3	(21/2−)	D	Jπ: 1049.1γ to (19/2+); band assignment.
3274.5[c] 4	(29/2+)	D	Jπ: 529.8γ E2 to (25/2+), band assignment.
3319.5[g] 3	(27/2+)	D	Jπ: 394.46γ M1+E2 to (25/2+), 722.0γ to (23/2+); band assignment.
3371.1[i] 3	(23/2−)	D	Jπ: 118.8γ M1+E2 to (21/2−), 1019.1γ E1 to (21/2+), band assignment.
3438.3[a] 4	(31/2−)	D	Jπ: 863.5γ to (27/2−); band assignment.
3464.2[e] 3	(27/2−)	D	Jπ: 510.3γ to (25/2−), 990.2γ to (23/2−); band assignment.
3529.1 4	(29/2−)	D	Jπ: 807.0γ to (25/2−); higher spin would require stronger population in (HI,xnγ).
3536.0[j] 3	(25/2−)	D	Jπ: 165.04γ M1+E2 to (23/2−), 937.87γ to (23/2+); band assignment.
3564.8[b] 5	(31/2+)	D	Jπ: 290γ to (29/2+), 631.6γ E2 to (27/2+); band assignment.
3767.3[h] 3	(29/2+)	D	Jπ: 447.7γ M1+E2 to (27/2+), 842.8γ to (25/2+); band assignment.
3786.9[i] 3	(27/2−)	D	Jπ: 250.96γ M1+E2 to (25/2−), 861.6γ to (23/2−); band assignment.
3819.7[q] 9	(31/2−)	D	Jπ: 381γ to (31/2−), 742γ to (27/2−); band assignment.
3882.4[d] 7	(31/2+)	D	Jπ: 690γ to (27/2+); band assignment.
3959.3[f] 3	(29/2−)	D	Jπ: 495.2γ to (27/2−), 1005.3γ to (25/2−); band assignment.
3972.8[c] 4	(33/2+)	D	Jπ: 408γ to (31/2+), 698.3γ to (29/2+); band assignment.
4106.8[l] 4	(29/2−)	D	Jπ: 1152.9γ to (25/2−); band assignment.
4123.6[j] 4	(29/2−)	D	Jπ: 336.72γ M1+E2 to (27/2−); band assignment.
4251.0[k] 3	(31/2−)	D	Jπ: 144.2γ M1+E2 to (29/2−), 786.8γ to (27/2−); band assignment.
4263.7[g] 4	(31/2+)	D	Jπ: 496.4γ M1+E2 to (29/2+), 944.4γ to (27/2+); band assignment.
4303.8[a] 8	(35/2−)	D	Jπ: 865.5γ to (31/2−); band assignment.
4351.9[b] 6	(35/2+)	D	Jπ: 787.1γ to (31/2+); band assignment.
4377.8[l] 3	(33/2−)	D	Jπ: 126.8γ M1+E2 to (31/2−), 848.7γ to (29/2−); band assignment.
4533.2[i] 4	(31/2−)	D	Jπ: 409.46γ M1+E2 to (29/2−); band assignment.
4573.7[k] 3	(35/2−)	D	Jπ: 195.9γ M1+E2 to (33/2−); band assignment.
4677.6[d] 7	(35/2+)	D	Jπ: 795γ to (31/2+); band assignment.
4793.3[h] 4	(33/2+)	D	Jπ: 529.6γ to (31/2+), 1026.8γ to (29/2+); band assignment.
4805.4[c] 5	(37/2+)	D	Jπ: 832.6γ to (33/2+); band assignment.
4817.5[l] 4	(37/2−)	D	Jπ: 243.8γ M1+E2 to (35/2−), 439.7γ to (33/2−); band assignment.
5005.1[j] 4	(33/2−)	D	Jπ: 471.8γ to (31/2−), 882.2γ to (29/2−); band assignment.
5113.9[k] 4	(39/2−)	D	Jπ: 296.4γ M1+E2 to (37/2−), 540.2γ to (35/2−); band assignment.
5171.3[a] 11	(39/2−)	D	Jπ: 867.5γ to (35/2−); band assignment.
5260.4[b] 7	(39/2+)	D	Jπ: 908.5γ to (35/2+); band assignment.
5354.1[g] 4	(35/2+)	D	Jπ: 560.9γ to (33/2+), 1090.2γ to (31/2+); band assignment.
5464.7[l] 4	(41/2−)	D	Jπ: 350.8γ M1+E2 to (39/2−), 647.2γ to (37/2−); band assignment.
5532.6[i] 4	(35/2−)	D	Jπ: 527.6γ to (33/2−), 1000.6γ to (31/2−); band assignment.
5564.5[d] 9	(39/2+)	D	Jπ: 887γ to (35/2+); band assignment.
5744.6[c] 6	(41/2+)	D	Jπ: 939.18γ to (37/2+); band assignment.
5868.3[k] 4	(43/2−)	D	Jπ: 403.6γ to (41/2−), 754.4γ to (39/2−); band assignment.
5906.8[h] 4	(37/2+)	D	Jπ: 552.8γ to (35/2+), 1112.9γ to (33/2+); band assignment.
6093.1[a] 11	(43/2−)	D	Jπ: 921.8γ to (39/2−); band assignment.
6106.5[j] 4	(37/2−)	D	Jπ: 574.1γ to (35/2−), 1101.0γ to (33/2−); band assignment.
6264.4[b] 10	(43/2+)	D	Jπ: 1004.0γ to (39/2+); band assignment.
6322.4[l] 4	(45/2−)	D	Jπ: 454.06γ to (43/2−), 857.6γ to (41/2−); band assignment.
6518.5[d] 13	(43/2+)	D	Jπ: 954γ to (39/2+); band assignment.

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Adopted Levels, Gammas (continued)

^{133}Pr Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
6724.6[i] 4	(39/2⁻)	D	Jπ: 618.1γ to (37/2⁻), 1191.9γ to (35/2⁻); band assignment.
6764.8[c] 7	(45/2⁺)	D	Jπ: 1020.2γ to (41/2⁺); band assignment.
6823.4[k] 5	(47/2⁻)	D	Jπ: 500.9γ to (45/2⁻), 955.0γ to (43/2⁻); band assignment.
7083.1[a] 13	(47/2⁻)	D	Jπ: 990.0γ to (43/2⁻); band assignment.
7336.6[j] 5	(41/2⁻)	D	Jπ: 612.0γ to (39/2⁻), 1230.0γ to (37/2⁻); band assignment.
7340.4[b] 14	(47/2⁺)	D	Jπ: 1076γ to (43/2⁺); band assignment.
7371.6[l] 5	(49/2⁻)	D	Jπ: 548.2γ to (47/2⁻), 1049.3γ to (45/2⁻); band assignment.
7534.5[d] 17	(47/2⁺)	D	Jπ: 1016γ to (43/2⁺); band assignment.
7858.8[c] 12	(49/2⁺)	D	Jπ: 1094γ to (45/2⁺); band assignment.
7969.2[k] 5	(51/2⁻)	D	Jπ: 597.6γ to (49/2⁻), 1145.7γ to (47/2⁻); band assignment.
8122.1[a] 17	(51/2⁻)	D	Jπ: 1039γ to (47/2⁻); band assignment.
8477.4[b] 18	(51/2⁺)	D	Jπ: 1137γ to (47/2⁺); band assignment.
8613.8[l] 6	(53/2⁻)	D	Jπ: 644.7γ to (51/2⁻), 1242.2γ to (49/2⁻); band assignment.
8621.5[d] 20	(51/2⁺)	D	Jπ: 1087γ to (47/2⁺); band assignment.
9016.8[c] 16	(53/2⁺)	D	Jπ: 1158γ to (49/2⁺); band assignment.
9200.1[a] 19	(55/2⁻)	D	Jπ: 1078γ to (51/2⁻); band assignment.
9666.4[b] 20	(55/2⁺)	D	Jπ: 1189γ to (51/2⁺); band assignment.
10227.8[c] 19	(57/2⁺)	D	Jπ: 1211γ to (53/2⁺); band assignment.
10342.1[a] 22	(59/2⁻)	D	Jπ: 1142γ to (55/2⁻); band assignment.
10909.4[b] 23	(59/2⁺)	D	Jπ: 1243γ to (55/2⁺); band assignment.
11561.1[a] 24	(63/2⁻)	D	Jπ: 1219γ to (59/2⁻); band assignment.
12200.4[b] 25	(63/2⁺)	D	Jπ: 1291γ to (59/2⁺); band assignment.
12860[a] 3	(67/2⁻)	D	Jπ: 1299γ to (63/2⁻); band assignment.
14211[a] 3	(71/2⁻)	D	Jπ: 1351γ to (67/2⁻); band assignment.
y[n]	(51/2)	E	Additional information 1. Jπ: J≈(51/2).
390.0+y[m] 8	J+1	E	
800.0+y[n] 8	J+2	E	
1230.0+y[m] 10	J+3	E	
1671.0+y[n] 11	J+4	E	
2138.0+y[m] 12	J+5	E	
2614.0+y[n] 13	J+6	E	
3117.0+y[m] 16	J+7	E	
3627.0+y[n] 16	J+8	E	
4167.0+y[m] 19	J+9	E	
4712.0+y[n] 19	J+10	E	
5288.0+y[m] 21	J+11	E	
5868.0+y[n] 22	J+12	E	
6480.0+y[m] 23	J+13	E	
7096.0+y[n] 24	J+14	E	
7745+y[m] 3	J+15	E	
8395+y[n] 3	J+16	E	
9066+y[m] 3	J+17	E	
9775+y[n] 3	J+18	E	
10478+y[m] 3	J+19	E	
11225+y[n] 3	J+20	E	
11967+y[m] 3	J+21	E	
12755+y[n] 3	J+22	E	
z[o]	(53/2)	E	Additional information 2. Jπ: J_1≈(53/2).

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Adopted Levels, Gammas (continued)

^{133}Pr Levels (continued)

E(level)†	Jπ‡	XREF	Comments
784.0+z^{o} *10*	J1+2	E	
1638.0+z^{o} *15*	J1+4	E	
2571.0+z^{o} *18*	J1+6	E	
3584.0+z^{o} *20*	J1+8	E	
4682.0+z^{o} *23*	J1+10	E	
5864.0+z^{o} *25*	J1+12	E	
7130+z^{o} *3*	J1+14	E	
8481+z^{o} *3*	J1+16	E	
9909+z^{o} *3*	J1+18	E	
11399+z^{o} *4*	J1+20	E	
12971+z^{o} *4*	J1+22	E	
14620+z^{o} *4*	J1+24	E	
16356+z^{o} *4*	J1+26	E	
u^{p}	(55/2)	E	Additional information 3. J^{π}: $J_2 \approx (53/2)$.
821.0+u^{p} *10*	J2+2	E	
1706.0+u^{p} *15*	J2+4	E	
2667.0+u^{p} *18*	J2+6	E	
3702.0+u^{p} *20*	J2+8	E	
4812.0+u^{p} *23*	J2+10	E	
5996.0+u^{p} *25*	J2+12	E	
7260+u^{p} *3*	J2+14	E	
8602+u^{p} *3*	J2+16	E	
10022+u^{p} *3*	J2+18	E	
11522+u^{p} *4*	J2+20	E	
13098+u^{p} *4*	J2+22	E	
14754+u^{p} *4*	J2+24	E	

† From a least-squares fit to Eγ.
‡ From transition multipolarities, band structure and decay pattern.
# From 1999Kl11, unless otherwise stated.
@ Band(A): π5/2[413] ($g_{7/2}$) 1-qp prolate band, α=+1/2.
& Band(B): π5/2[413] ($g_{7/2}$) 1-qp prolate band, α=−1/2.
a Band(C): π3/2[541] ($h_{11/2}$) 1-qp prolate band, α=−1/2.
b Band(D): 3-qp band based on the (19/2$^+$) state, α=−1/2; configuration=$\pi 5/2[413]\otimes\pi^2(h^2_{11/2})$; Q_t=2.5-3.0 eb at low spin, but increases beyond 3.0 eb at high spin.
c Band(E): 3-qp band based on the (21/2$^+$) state, α=+1/2, configuration=$\pi 5/2[413]\otimes\pi^2(h^2_{11/2})$; Q_t=2.5-3.0 eb at low spin, but increases beyond 3.0 eb at high spin.
d Band(F): 3-qp band based on (23/2$^+$) state, α=−1/2, probable configuration=$\pi 3/2[411]\otimes\pi^2(h^2_{11/2})$.
e Band(G): K^{π}=(21/2$^-$) 3-qp band, α=−1/2, configuration=$\pi 5/2[413]\otimes\nu^2$(7/2[404],9/2[514]).
f Band(H): K^{π}=(21/2$^-$) 3-qp band, α=+1/2, configuration=$\pi 5/2[413]\otimes\nu^2$(7/2[404],9/2[514]).
g Band(I): K^{π}=(19/2$^+$) 3-qp band, α=−1/2, configuration=$\pi 3/2[541]\otimes\nu^2$(7/2[404],9/2[514]).
h Band(J): K^{π}=(19/2$^+$) 3-qp band, α=+1/2, configuration=$\pi 3/2[541]\otimes\nu^2$(7/2[404],9/2[514]).
i Band(K): 3-qp oblate deformed band based on the (23/2$^-$) state, α=−1/2; configuration=$\pi 11/2[505](h_{11/2})\otimes\nu^2(h^2_{11/2})$. The assignment is tentative.
j Band(L): 3-qp oblate deformed band based on the (21/2$^-$) state, α=+1/2; configuration=$\pi 11/2[505](h_{11/2})\otimes\nu^2(h^2_{11/2})$. The assignment is tentative.
k Band(M): 5-qp band based on the (31/2$^-$) state, α=−1/2, configuration=$\pi^3(5/2[413],h^2_{11/2})\otimes\nu^2$(7/2[404],9/2[514]).
l Band(N): 5-qp band based on the (29/2$^-$) state, α=+1/2, configuration=$\pi^3(5/2[413],h^2_{11/2})\otimes\nu^2$(7/2[404],9/2[514]).

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{133}Pr Levels (continued)

[m] Band(O): SD-1 band. Probable configuration=π9/2[404] ($g_{9/2}$) orbital. Signature partner of SD-2 band. Percent population=1.0% for the strongest transitions relative to total population of ^{133}Pr.

[n] Band(P): SD-2 band. Probable configuration=π9/2[404] ($g_{9/2}$) orbital. Signature partner of SD-1 band. Percent population=1.0% for the strongest transitions relative to total population of ^{133}Pr.

[o] Band(Q): SD-3 band. Probable configuration=$\pi_{5/2}$[532] ($h_{11/2}$) orbital. Signature partner of SD-4 band. Percent population=0.5% for the strongest transitions relative to total population of ^{133}Pr.

[p] Band(R): SD-4 band. Probable configuration=$\pi_{5/2}$[532] ($h_{11/2}$) orbital. Signature partner of SD-3 band. Percent population=0.2% for the strongest transitions relative to total population of ^{133}Pr.

[q] Band(S): Based on ($15/2^-$) state; possible $\Delta J=2$ level sequence (1988Hi04).

Adopted Levels, Gammas (continued)

$\gamma(^{133}Pr)$

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ	α[&]	Comments
61.68	(5/2$^+$)	61.7[#] *1*	100[#]	0.0	(3/2$^+$)	M1		5.22 *8*	
166.70	(5/2$^+$,7/2$^+$)	105.1 *2*	100 *16*	61.68	(5/2$^+$)	M1+E2	0.5 *3*	1.25 *13*	
		166.7 *1*	11.0 *21*	0.0	(3/2$^+$)				
192.12	(11/2$^-$)	130.4[#] *2*	100[#]	61.68	(5/2$^+$)	E3		7.60 *12*	B(E3)(W.u.)=0.19 *4*
225.86	(7/2$^+$)	59.1[#] *3*	1.7[#] *4*	166.70	(5/2$^+$,7/2$^+$)				
		164.21[#] *10*	100[#]	61.68	(5/2$^+$)	M1(+E2)	0.2 *4*	0.322 *13*	
		225.9[#] *3*	19[#] *4*	0.0	(3/2$^+$)				
295.63	(7/2$^-$)	103.6[#] *2*	100[#] *10*	192.12	(11/2$^-$)	E2		1.87 *3*	
		233.9[#] *1*	98[#] *15*	61.68	(5/2$^+$)	E1		0.0249 *4*	
402.78	(1/2$^+$,3/2$^+$)	341.0[@] *3*	3[@] *1*	61.68	(5/2$^+$)				
		402.8[@] *1*	100[@]	0.0	(3/2$^+$)	M1		0.0292 *4*	
428.57	(5/2$^+$,7/2$^+$)	202.7[#] *1*	6.9[#] *12*	225.86	(7/2$^+$)				
		261.9[#] *2*	16[#] *3*	166.70	(5/2$^+$,7/2$^+$)				
		367.0[#] *1*	100[#] *14*	61.68	(5/2$^+$)	M1(+E2)		0.032 *5*	
		428.8[#] *4*	45[#] *8*	0.0	(3/2$^+$)				
475.84	(9/2$^+$)	250.0[#] *2*	45[#] *7*	225.86	(7/2$^+$)	M1(+E2)		0.096 *6*	
		414.3[#] *2*	100[#] *14*	61.68	(5/2$^+$)	E2			
488.30	(5/2,7/2$^+$)	262.5[#] *2*	39[#] *8*	225.86	(7/2$^+$)				
		321.2[#] *3*	9.5[#] *20*	166.70	(5/2$^+$,7/2$^+$)				
		426.6[#] *4*	100[#] *15*	61.68	(5/2$^+$)				
		488.3[#] *2*	47[#] *10*	0.0	(3/2$^+$)				
489.80?	(3/2)	489.8[@b] *2*	100[@]	0.0	(3/2$^+$)				
502.29	(15/2$^-$)	310.14 *9*	100	192.12	(11/2$^-$)	E2		0.0455 *7*	B(E2)(W.u.)=105 *7*
551.36	(11/2$^-$)	255.7[#] *2*	29[#] *4*	295.63	(7/2$^-$)				
		359.1[#] *4*	100[#] *14*	192.12	(11/2$^-$)				
586.31	(3/2$^+$)	419.6[@] *1*	100[@] *10*	166.70	(5/2$^+$,7/2$^+$)	M1+E2		0.022 *4*	
		524.7[@] *3*	62[@] *12*	61.68	(5/2$^+$)				
		586.4[@] *4*	35[@] *17*	0.0	(3/2$^+$)				
619.10	(5/2$^+$,7/2$^+$)	143.2[#] *4*	8[#] *2*	475.84	(9/2$^+$)				
		190.5[#] *2*	15[#] *3*	428.57	(5/2$^+$,7/2$^+$)				
		393.3[#] *2*	63[#] *13*	225.86	(7/2$^+$)	M1(+E2)		0.027 *5*	
		452.4[#] *1*	100[#] *13*	166.70	(5/2$^+$,7/2$^+$)	E2(+M1)		0.018 *4*	
		557.4[#] *3*	35[#] *5*	61.68	(5/2$^+$)				

$^{133}_{59}Pr_{74}$-8

Adopted Levels, Gammas (continued)

γ(^{133}Pr) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[&]
639.06	(1/2,3/2)	472.1[@] *3*	38[@] *14*	166.70	(5/2$^+$,7/2$^+$)		
		577.4[a@] *1*	100[a@] *19*	61.68	(5/2$^+$)		
		639.1[@] *4*	52[@] *14*	0.0	(3/2$^+$)		
656.4		360.8[@] *3*	100[@]	295.63	(7/2$^-$)		
679.20		383.5[#] *2*	100[#]	295.63	(7/2$^-$)		
702.43	(11/2$^+$)	226.6[#] *3*	[#]	475.84	(9/2$^+$)		
		476.6[#] *1*	100[#]	225.86	(7/2$^+$)	E2	0.01286 *18*
744.01	(1/2$^+$,3/2)	577.4[a@] *1*	38[a@] *12*	166.70	(5/2$^+$,7/2$^+$)		
		682.3[@] *2*	36[@] *6*	61.68	(5/2$^+$)		
		743.9[@] *1*	100[@] *10*	0.0	(3/2$^+$)		
753.12	(5/2,7/2$^+$)	264.8[#] *2*	18[#] *3*	488.30	(5/2,7/2$^+$)		
		527.2[#] *2*	65[#] *16*	225.86	(7/2$^+$)		
		586.3[#] *3*	16[#] *3*	166.70	(5/2$^+$,7/2$^+$)		
		691.4[#] *2*	37[#] *7*	61.68	(5/2$^+$)		
		753.1[#] *2*	100[#] *17*	0.0	(3/2$^+$)		
790.52	(13/2$^-$)	288.3 *3*	100 *17*	502.29	(15/2$^-$)		
		598.6 *6*	93 *17*	192.12	(11/2$^-$)	D+Q	
859.7	(5/2,7/2,9/2)	564.1[#] *3*	100[#]	295.63	(7/2$^-$)		
862.96	(5/2$^+$,7/2,9/2$^+$)	374.4[#] *3*	20[#] *5*	488.30	(5/2,7/2$^+$)		
		387.4[#] *2*	24[#] *5*	475.84	(9/2$^+$)		
		637.1[#] *1*	100[#] *20*	225.86	(7/2$^+$)		
		696.1[#] *3*	56[#] *11*	166.70	(5/2$^+$,7/2$^+$)		
		801.0[#] *3*	77[#] *14*	61.68	(5/2$^+$)		
872.17	(5/2$^+$,7/2$^+$)	383.9[#] *4*	39[#] *7*	488.30	(5/2,7/2$^+$)		
		396.3[#] *2*	72[#] *14*	475.84	(9/2$^+$)		
		443.9[#] *4*	18[#] *4*	428.57	(5/2$^+$,7/2$^+$)		
		646.3[#] *3*	72[#] *15*	225.86	(7/2$^+$)		
		810.5[a#] *5*	61[a#] *10*	61.68	(5/2$^+$)		
		872.2[#] *2*	100[#] *20*	0.0	(3/2$^+$)		
898.81		154.6[@] *4*	26[@] *8*	744.01	(1/2$^+$,3/2)		
		496.1[@] *4*	8[@] *8*	402.78	(1/2$^+$,3/2$^+$)		
		732.1[a@] *3*	18[a@] *8*	166.70	(5/2$^+$,7/2$^+$)		
		836.9[a@] *4*	26[a@] *11*	61.68	(5/2$^+$)		

$^{133}_{59}Pr_{74}$-9

Adopted Levels, Gammas (continued)

γ(^{133}Pr) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult. ‡	α &	Comments
898.81		899.2@ *4*	100@ *11*	0.0	(3/2$^+$)			
903.59	(5/2$^+$,7/2$^+$)	428.1# *5*	97# *22*	475.84	(9/2$^+$)			
		475.0# *2*	63# *16*	428.57	(5/2$^+$,7/2$^+$)			
		677.8# *4*	100# *16*	225.86	(7/2$^+$)			
		736.7# *3*	78# *19*	166.70	(5/2$^+$,7/2$^+$)			
		841.9# *4*	53# *16*	61.68	(5/2$^+$)			
		903.7# *4*	44# *16*	0.0	(3/2$^+$)			
910.97	(5/2,7/2,9/2)	231.7# *2*	27# *8*	679.20				
		359.4# *4*	100# *20*	551.36	(11/2$^-$)			
		615.2# *6*	86# *18*	295.63	(7/2$^-$)			
916.46	(7/2$^-$,9/2)	365.1# *2*	100# *25*	551.36	(11/2$^-$)			
		724.6#b *4*	70# *35*	192.12	(11/2$^-$)			
938.46	(15/2$^-$)	435.8 *3*	100	502.29	(15/2$^-$)			
		746.4 *4*	33.3 *21*	192.12	(11/2$^-$)			
939.2	(7/2$^-$,9/2$^+$)	772.5# *4*	65# *20*	166.70	(5/2$^+$,7/2$^+$)			
		877.6# *5*	100# *20*	61.68	(5/2$^+$)			
977.2	(5/2,7/2$^+$)	810.5a# *5*	43a# *11*	166.70	(5/2$^+$,7/2$^+$)			
		977.3#b *3*	100# *20*	0.0	(3/2$^+$)			
984.39	(5/2$^+$,7/2,9/2$^+$)	496.3# *4*	36# *7*	488.30	(5/2,7/2$^+$)			
		508.6# *4*	100# *40*	475.84	(9/2$^+$)			
		555.7# *2*	27# *6*	428.57	(5/2$^+$,7/2$^+$)			
		758.3# *4*	18# *6*	225.86	(7/2$^+$)			
		818.1# *3*	38# *7*	166.70	(5/2$^+$,7/2$^+$)			
		922.8# *2*	66# *13*	61.68	(5/2$^+$)			
1001.62	(5/2$^+$,7/2,9/2$^+$)	450.3# *2*	100# *20*	551.36	(11/2$^-$)			
		525.7# *3*	51# *12*	475.84	(9/2$^+$)			
		572.9# *4*	48# *10*	428.57	(5/2$^+$,7/2$^+$)			
		939.9# *4*	53# *10*	61.68	(5/2$^+$)			
1027.22	(5/2$^+$,7/2,9/2)	551.2# *2*	63# *13*	475.84	(9/2$^+$)			
		598.7# *1*	100#	428.57	(5/2$^+$,7/2$^+$)			
1041.99	(1/2,3/2)	639.2@ *2*	100@	402.78	(1/2$^+$,3/2$^+$)			
1053.74	(19/2$^-$)	551.4 *1*	100 *4*	502.29	(15/2$^-$)	E2	0.00868 *13*	B(E2)(W.u.)=115 *4*
1055.65	(7/2$^+$,9/2$^+$)	353.3# *2*	14# *3*	702.43	(11/2$^+$)			

$^{133}_{59}Pr_{74}$-10

Adopted Levels, Gammas (continued)

$\gamma(^{133}Pr)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	Comments
1055.65	(7/2$^+$,9/2$^+$)	436.4[#] *2*	51[#] *8*	619.10	(5/2$^+$,7/2$^+$)		
		580.0[#] *4*	36[#] *6*	475.84	(9/2$^+$)		
		627.1[#] *1*	100[#] *10*	428.57	(5/2$^+$,7/2$^+$)		
		829.7[#] *3*	15[#] *5*	225.86	(7/2$^+$)		
		888.9[#] *2*	49[#] *10*	166.70	(5/2$^+$,7/2$^+$)		
		993.5[#] *6*	27[#] *6*	61.68	(5/2$^+$)		
1058.31	(5/2,7/2,9/2)	439.0[#] *2*	43[#] *7*	619.10	(5/2$^+$,7/2$^+$)		
		569.9[#] *4*	90[#] *18*	488.30	(5/2,7/2$^+$)		
		832.5[#] *5*	45[#] *10*	225.86	(7/2$^+$)		
		891.8[#] *2*	100[#] *18*	166.70	(5/2$^+$,7/2$^+$)		
1081.45	(13/2$^+$)	379		702.43	(11/2$^+$)		
		605.6 *2*	100	475.84	(9/2$^+$)		E_γ: complex peak.
1129.9	(7/2$^-$,9/2)	578.4[#] *4*	71[#] *36*	551.36	(11/2$^-$)		
		963.4[#] *5*	100[#] *36*	166.70	(5/2$^+$,7/2$^+$)		
1167.11	(5/2,7/2,9/2$^+$)	1000.3[#] *2*	86[#] *16*	166.70	(5/2$^+$,7/2$^+$)		
		1105.4[a#] *2*	100[a#] *19*	61.68	(5/2$^+$)		
1171.74	(15/2$^-$)	381.0 *2*	100 *14*	790.52	(13/2$^-$)		
		669.5 *2*	43 *14*	502.29	(15/2$^-$)		
1188.4	(5/2$^+$,7/2,9/2)	569.3[#] *4*	64[#] *21*	619.10	(5/2$^+$,7/2$^+$)		
		712.5[#] *8*	100[#] *43*	475.84	(9/2$^+$)		
1220.4?		732.1[a@b] *6*	100[a@]	489.80?	(3/2)		
1231.51	(5/2,7/2,9/2$^+$)	802.8[#] *4*	74[#] *18*	428.57	(5/2$^+$,7/2$^+$)		
		1169.9[#] *3*	100[#] *21*	61.68	(5/2$^+$)		
1255.30	(5/2,7/2,9/2)	502.1[#] *3*	100[#] *20*	753.12	(5/2,7/2$^+$)		
		826.8[#] *3*	95[#] *25*	428.57	(5/2$^+$,7/2$^+$)		
1265.46	(17/2$^-$)	212.0 *4*	3.0 *7*	1053.74	(19/2$^-$)		
		475.2 *2*	41 *5*	790.52	(13/2$^-$)		
		763.3 *3*	100 *10*	502.29	(15/2$^-$)	M1+E2	
1284.1	(5/2$^+$,7/2,9/2)	808.3[#] *5*	100[#] *24*	475.84	(9/2$^+$)		
		855.5[#] *4*	59[#] *17*	428.57	(5/2$^+$,7/2$^+$)		
1295.7?		819.9[#b] *4*	100[#]	475.84	(9/2$^+$)		
1297.3	(7/2$^+$,9/2)	544.2[#] *3*	100[#] *19*	753.12	(5/2,7/2$^+$)		
		594.8[#] *5*	71[#] *16*	702.43	(11/2$^+$)		
1308.5		1082.6[#] *3*	100[#]	225.86	(7/2$^+$)		

$^{133}_{59}Pr_{74}$-11

Adopted Levels, Gammas (continued)

γ(^{133}Pr) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[&]
1312.7		836.9[a#] *3*	100[a#]	475.84	(9/2$^+$)		
1325.39	(15/2$^+$)	244		1081.45	(13/2$^+$)		
		623.1 *2*	100 *14*	702.43	(11/2$^+$)	E2	0.00635 *9*
1325.54	(5/2$^+$,7/2$^+$)	572.3[#] *2*	53[#] *13*	753.12	(5/2,7/2$^+$)		
		837.2[#] *3*	91[#] *22*	488.30	(5/2,7/2$^+$)		
		850.1[#] *6*	100[#] *19*	475.84	(9/2$^+$)		
		1325.7[#] *3*	91[#] *19*	0.0	(3/2$^+$)		
1366.5		937.9[#] *4*	100[#]	428.57	(5/2$^+$,7/2$^+$)		
1428.2		1202.3[#] *3*	100[#]	225.86	(7/2$^+$)		
1431.3		1002.7[#] *4*	100[#]	428.57	(5/2$^+$,7/2$^+$)		
1648.31	(19/2$^-$)	476.3 *3*	≤63	1171.74	(15/2$^-$)		
		594.5 *2*	100 *13*	1053.74	(19/2$^-$)		
		709.7 *2*	72 *13*	938.46	(15/2$^-$)		
		1146.1 *5*	15.9 *16*	502.29	(15/2$^-$)		
1656.73	(7/2$^+$,9/2)	793.7[#] *6*	77[#] *23*	862.96	(5/2$^+$,7/2,9/2$^+$)		
		954.5[#] *9*	23[#] *14*	702.43	(11/2$^+$)		
		1105.4[a#] *2*	77[a#] *23*	551.36	(11/2$^-$)		
		1228.0[#] *4*	100[#] *23*	428.57	(5/2$^+$,7/2$^+$)		
1671.0	(19/2$^-$)	406		1265.46	(17/2$^-$)		
		499		1171.74	(15/2$^-$)		
		617		1053.74	(19/2$^-$)		
		1169		502.29	(15/2$^-$)		
1706.03	(9/2$^+$)	647.7[#] *3*	41[#] *10*	1058.31	(5/2,7/2,9/2)		
		721.3[#] *4*	35[#] *7*	984.39	(5/2$^+$,7/2,9/2$^+$)		
		833.8[#] *5*	100[#] *21*	872.17	(5/2$^+$,7/2$^+$)		
		1004.1[#] *7*	15[#] *5*	702.43	(11/2$^+$)		
		1277.4[#] *9*	24[#] *6*	428.57	(5/2$^+$,7/2$^+$)		
		1410.4[#] *2*	51[#] *10*	295.63	(7/2$^-$)		
		1514.1[#] *4*	41[#] *10*	192.12	(11/2$^-$)		
1723.03	(7/2$^-$,9/2)	664.7[#] *2*	36[#] *2*	1058.31	(5/2,7/2,9/2)		
		667.4[#] *2*	100[#] *20*	1055.65	(7/2$^+$,9/2$^+$)		
		738.7[#] *2*	63[#] *9*	984.39	(5/2$^+$,7/2,9/2$^+$)		
		969.8[#] *3*	19[#] *5*	753.12	(5/2,7/2$^+$)		
		1171.6[#] *2*	20[#] *5*	551.36	(11/2$^-$)		
		1294.5[#] *2*	89[#] *19*	428.57	(5/2$^+$,7/2$^+$)		

$^{133}_{59}Pr_{74}$-12

Adopted Levels, Gammas (continued)

$\gamma(^{133}Pr)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[&]	Comments
1723.03	(7/2⁻,9/2)	1497.2[#] *4*	39[#] *8*	225.86	(7/2⁺)			
1762.60	(23/2⁻)	708.84 *8*	100	1053.74	(19/2⁻)	E2	0.00463 *7*	
1785.28	(9/2⁺)	617.8[#] *4*	41[#] *9*	1167.11	(5/2,7/2,9/2⁺)			
		758.3[#] *4*	45[#] *14*	1027.22	(5/2⁺,7/2,9/2)			
		783.4[#] *5*	76[#] *14*	1001.62	(5/2⁺,7/2,9/2⁺)			
		801.3[#] *3*	29[#] *10*	984.39	(5/2⁺,7/2,9/2⁺)			
		1082.6[#] *2*	50[#] *10*	702.43	(11/2⁺)			
		1166.5[#] *2*	84[#] *17*	619.10	(5/2⁺,7/2⁺)			
		1233.8[#] *9*	16[#] *7*	551.36	(11/2⁻)			
		1356.4[#] *3*	34[#] *9*	428.57	(5/2⁺,7/2⁺)			
		1559.4[#] *2*	100[#] *21*	225.86	(7/2⁺)			
		1723.2[#] *5*	62[#] *14*	61.68	(5/2⁺)			
1788.8	(17/2⁺)	465		1325.39	(15/2⁺)			
		707.3 *4*	100	1081.45	(13/2⁺)			
1796.54		629.4[#] *2*	61[#] *13*	1167.11	(5/2,7/2,9/2⁺)			
		740.8[#] *2*	61[#] *14*	1055.65	(7/2⁺,9/2⁺)			
		924.6[#] *3*	75[#] *14*	872.17	(5/2⁺,7/2⁺)			
		1368.1[#] *4*	34[#] *9*	428.57	(5/2⁺,7/2⁺)			
		1570.6[#] *4*	100[#] *21*	225.86	(7/2⁺)			
1828.4?		826.8[#b] *4*	100[#]	1001.62	(5/2⁺,7/2,9/2⁺)			
1992.5	(19/2⁺)	667.27 *28*	49 *14*	1325.39	(15/2⁺)	E2	0.00536 *8*	
		938.4 *4*	100 *14*	1053.74	(19/2⁻)			
2033.77	(21/2⁻)	768.44 *12*	100	1265.46	(17/2⁻)	E2	0.00383 *6*	B(E2)(W.u.)>0.0015
2045.39	(19/2⁺)	256		1788.8	(17/2⁺)			
		720.0 *3*	100 *28*	1325.39	(15/2⁺)			
		992.0 *7*	≤69	1053.74	(19/2⁻)			
2118.31	(7/2⁺,9/2)	1062.6[#] *4*	59[#] *11*	1055.65	(7/2⁺,9/2⁺)			
		1207.2[#] *2*	12[#] *5*	910.97	(5/2,7/2,9/2)			
		1416.0[#] *5*	16[#] *7*	702.43	(11/2⁺)			
		1642.5[#] *2*	100[#] *19*	475.84	(9/2⁺)			
		1689.8[#] *2*	63[#] *12*	428.57	(5/2⁺,7/2⁺)			
		1892.5[#] *7*	23[#] *8*	225.86	(7/2⁺)			
2179.8		1121.5[#] *4*	100[#]	1058.31	(5/2,7/2,9/2)			
2203.30	(19/2⁺)	169.75 *15*	96 *4*	2033.77	(21/2⁻)	E1	0.0589 *9*	B(E1)(W.u.)>5.2×10⁻⁷
		554.9 *1*	100 *7*	1648.31	(19/2⁻)			

$^{133}_{59}Pr_{74}$-13

Adopted Levels, Gammas (continued)

γ(^{133}Pr) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[&]	Comments
2203.30	(19/2$^+$)	1149.43 *28*	76 *5*	1053.74	(19/2$^-$)	E1	0.00070 *1*	B(E1)(W.u.)>1.3×10^{-9}
2330.9	(23/2$^-$)	568		1762.60	(23/2$^-$)			
		660		1671.0	(19/2$^-$)			
		1277		1053.74	(19/2$^-$)			
2352.20	(21/2$^+$)	148.88 *16*	100	2203.30	(19/2$^+$)	M1+E2	0.47 *5*	
2356.4	(21/2$^+$)	567.8 *3*	31 *8*	1788.8	(17/2$^+$)			
		1302.8 *4*	100 *4*	1053.74	(19/2$^-$)	E1	0.00063 *1*	
2445.09	(23/2$^+$)	399.7 *2*	37 *8*	2045.39	(19/2$^+$)			
		452.5 *4*	52 *8*	1992.5	(19/2$^+$)	E2	0.01484 *22*	
		682.46 *29*	100 *4*	1762.60	(23/2$^-$)	E1	0.00190 *3*	
2473.98	(23/2$^-$)	440.2 *1*	100	2033.77	(21/2$^-$)	M1+E2	0.020 *4*	
2554.7		2388.0[#] *8*	100[#]	166.70	(5/2$^+$,7/2$^+$)			
2575.03	(27/2$^-$)	812.44 *9*	100	1762.60	(23/2$^-$)	E2	0.00336 *5*	
2576.9	(23/2$^+$)	585	76 *24*	1992.5	(19/2$^+$)			
		814	100 *24*	1762.60	(23/2$^-$)			
2597.8	(23/2$^+$)	245.6 *1*	100	2352.20	(21/2$^+$)	M1+E2	0.101 *6*	
2673.8		885		1788.8	(17/2$^+$)			
2692.0?	(21/2,23/2$^+$)	489		2203.30	(19/2$^+$)			
		929		1762.60	(23/2$^-$)			
2722.0	(25/2$^-$)	959.4 *3*	100	1762.60	(23/2$^-$)			
2744.7	(25/2$^+$)	299		2445.09	(23/2$^+$)			
		388.4 *2*	100 *7*	2356.4	(21/2$^+$)			
		981.8 *4*	37 *7*	1762.60	(23/2$^-$)			
2802.4	(23/2$^+$)	757	100	2045.39	(19/2$^+$)			
2924.9	(25/2$^+$)	327.1 *1*	100 *5*	2597.8	(23/2$^+$)	M1+E2	0.044 *6*	
		572.5 *3*	5.3 *9*	2352.20	(21/2$^+$)			
2933.2	(27/2$^+$)	188		2744.7	(25/2$^+$)			
		488.1 *3*	100	2445.09	(23/2$^+$)	E2	0.01203 *17*	
2953.88	(25/2$^-$)	479.9 *1*	100 *18*	2473.98	(23/2$^-$)			
		920.1 *3*	37 *5*	2033.77	(21/2$^-$)			
3078.2	(27/2$^-$)	504		2575.03	(27/2$^-$)			
		747		2330.9	(23/2$^-$)			
3192.5	(27/2$^+$)	616	100 *26*	2576.9	(23/2$^+$)			
		747	≤66	2445.09	(23/2$^+$)			
3252.3	(21/2$^-$)	1049.1 *3*	100	2203.30	(19/2$^+$)			
3274.5	(29/2$^+$)	341		2933.2	(27/2$^+$)			
		529.8 *3*	100 *5*	2744.7	(25/2$^+$)	E2	0.00965 *14*	
3319.5	(27/2$^+$)	394.46 *12*	100 *5*	2924.9	(25/2$^+$)	M1+E2	0.026 *5*	
		722.0 *5*	11.2 *12*	2597.8	(23/2$^+$)			
3371.1	(23/2$^-$)	118.8 *1*	34 *2*	3252.3	(21/2$^-$)	M1+E2	0.97 *18*	
		773.6 *2*	4.2 *21*	2597.8	(23/2$^+$)			

$^{133}_{59}Pr_{74}$-14

Adopted Levels, Gammas (continued)

γ(^{133}Pr) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[&]
3371.1	(23/2$^-$)	1019.1 *3*	100 *8*	2352.20	(21/2$^+$)	E1	0.00086 *1*
3438.3	(31/2$^-$)	863.5 *7*	100	2575.03	(27/2$^-$)		
3464.2	(27/2$^-$)	510.3 *2*	100 *20*	2953.88	(25/2$^-$)		
		990.2 *3*	53 *5*	2473.98	(23/2$^-$)		
3529.1	(29/2$^-$)	807.0 *3*	100	2722.0	(25/2$^-$)		
3536.0	(25/2$^-$)	165.04 *12*	100 *7*	3371.1	(23/2$^-$)	M1+E2	0.34 *3*
		937.87 *26*	16.6 *17*	2597.8	(23/2$^+$)		
3564.8	(31/2$^+$)	290		3274.5	(29/2$^+$)		
		631.6 *3*	100 *6*	2933.2	(27/2$^+$)	E2	0.00614 *9*
3767.3	(29/2$^+$)	447.7 *1*	100 *7*	3319.5	(27/2$^+$)	M1+E2	0.019 *4*
		842.8 *3*	27.5 *18*	2924.9	(25/2$^+$)		
3786.9	(27/2$^-$)	250.96 *12*	100 *6*	3536.0	(25/2$^-$)	M1+E2	0.095 *6*
		861.6 *3*	6.7 *10*	2924.9	(25/2$^+$)		
3819.7	(31/2$^-$)	381		3438.3	(31/2$^-$)		
		742		3078.2	(27/2$^-$)		
3882.4	(31/2$^+$)	608	77 *23*	3274.5	(29/2$^+$)		
		690	100 *23*	3192.5	(27/2$^+$)		
		949	≤58	2933.2	(27/2$^+$)		
3959.3	(29/2$^-$)	495.2 *2*	75 *7*	3464.2	(27/2$^-$)		
		1005.3 *3*	100 *7*	2953.88	(25/2$^-$)		
3972.8	(33/2$^+$)	408		3564.8	(31/2$^+$)		
		698.3 *2*	100 *6*	3274.5	(29/2$^+$)		
4106.8	(29/2$^-$)	1152.9 *5*	100	2953.88	(25/2$^-$)		
4123.6	(29/2$^-$)	336.72 *9*	100	3786.9	(27/2$^-$)	M1+E2	0.041 *6*
4251.0	(31/2$^-$)	144.2 *2*	31 *7*	4106.8	(29/2$^-$)	M1+E2	0.52 *7*
		291.7 *1*	100 *7*	3959.3	(29/2$^-$)	M1+E2	0.061 *7*
		786.8 *3*	16 *6*	3464.2	(27/2$^-$)		
4263.7	(31/2$^+$)	496.4 *1*	100 *10*	3767.3	(29/2$^+$)	M1+E2	0.014 *3*
		944.4 *3*	55 *10*	3319.5	(27/2$^+$)		
4303.8	(35/2$^-$)	865.5 *7*	100	3438.3	(31/2$^-$)		
4351.9	(35/2$^+$)	787.1 *4*	100	3564.8	(31/2$^+$)		
4377.8	(33/2$^-$)	126.8 *1*	54 *6*	4251.0	(31/2$^-$)	M1+E2	0.79 *13*
		848.7 *3*	80 *6*	3529.1	(29/2$^-$)		
		939.6 *2*	100.0 *22*	3438.3	(31/2$^-$)		
4533.2	(31/2$^-$)	409.46 *9*	100	4123.6	(29/2$^-$)	M1+E2	0.0024 *5*
4573.7	(35/2$^-$)	195.9 *1*	100	4377.8	(33/2$^-$)	M1+E2	0.200 *5*
4677.6	(35/2$^+$)	705	<47	3972.8	(33/2$^+$)		
		795	100 *19*	3882.4	(31/2$^+$)		
		1113	≤47	3564.8	(31/2$^+$)		
4793.3	(33/2$^+$)	529.6 *1*	100 *9*	4263.7	(31/2$^+$)		
		1026.8 *5*	45 *9*	3767.3	(29/2$^+$)		
4805.4	(37/2$^+$)	832.6 *2*	100	3972.8	(33/2$^+$)		

$^{133}_{59}Pr_{74}$-15

Adopted Levels, Gammas (continued)

$\gamma(^{133}Pr)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[&]
4817.5	(37/2$^-$)	243.8 *1*	100 *6*	4573.7	(35/2$^-$)	M1+E2	0.104 *6*
		439.7 *3*	5.8 *14*	4377.8	(33/2$^-$)		
5005.1	(33/2$^-$)	471.8 *1*	100 *11*	4533.2	(31/2$^-$)		
		882.2 *3*	20.5 *26*	4123.6	(29/2$^-$)		
5113.9	(39/2$^-$)	296.4 *1*	100 *5*	4817.5	(37/2$^-$)	M1+E2	0.059 *7*
		540.2 *4*	2.8 *13*	4573.7	(35/2$^-$)		
5171.3	(39/2$^-$)	867.5 *7*	100	4303.8	(35/2$^-$)		
5260.4	(39/2$^+$)	908.5 *4*	100	4351.9	(35/2$^+$)		
5354.1	(35/2$^+$)	560.9 *2*	100 *7*	4793.3	(33/2$^+$)		
		1090.2 *5*	73 *13*	4263.7	(31/2$^+$)		
5464.7	(41/2$^-$)	350.8 *1*	100 *6*	5113.9	(39/2$^-$)	M1+E2	0.036 *6*
		647.2 *3*	8.8 *15*	4817.5	(37/2$^-$)		
5532.6	(35/2$^-$)	527.6 *1*	100 *9*	5005.1	(33/2$^-$)		
		1000.6[b] *3*	37 *5*	4533.2	(31/2$^-$)		
5564.5	(39/2$^+$)	759	<58	4805.4	(37/2$^+$)		
		887	100 *23*	4677.6	(35/2$^+$)		
5744.6	(41/2$^+$)	939.18 *29*	100	4805.4	(37/2$^+$)		
5868.3	(43/2$^-$)	403.6 *1*	100 *4*	5464.7	(41/2$^-$)	M1+E2	0.0025 *5*
		754.4 *3*	7 *2*	5113.9	(39/2$^-$)		
5906.8	(37/2$^+$)	552.8 *2*	100 *6*	5354.1	(35/2$^+$)		
		1112.9 *5*	89 *6*	4793.3	(33/2$^+$)		
6093.1	(43/2$^-$)	921.8 *2*	100	5171.3	(39/2$^-$)		
6106.5	(37/2$^-$)	574.1 *2*	100 *6*	5532.6	(35/2$^-$)		
		1101.0 *3*	67 *7*	5005.1	(33/2$^-$)		
6264.4	(43/2$^+$)	1004.0 *7*	100	5260.4	(39/2$^+$)		
6322.4	(45/2$^-$)	454.06 *19*	100 *7*	5868.3	(43/2$^-$)		
		857.6 *3*	25 *3*	5464.7	(41/2$^-$)		
6518.5	(43/2$^+$)	954	100	5564.5	(39/2$^+$)		
6724.6	(39/2$^-$)	618.1 *2*	100 *5*	6106.5	(37/2$^-$)		
		1191.9 *3*	47 *6*	5532.6	(35/2$^-$)		
6764.8	(45/2$^+$)	1020.2 *4*	100	5744.6	(41/2$^+$)		
6823.4	(47/2$^-$)	500.9 *5*	100 *6*	6322.4	(45/2$^-$)		
		955.0 *5*	28 *6*	5868.3	(43/2$^-$)		
7083.1	(47/2$^-$)	990.0 *7*	100	6093.1	(43/2$^-$)		
7336.6	(41/2$^-$)	612.0 *3*	100 *10*	6724.6	(39/2$^-$)		
		1230.0 *5*	55 *10*	6106.5	(37/2$^-$)		
7340.4	(47/2$^+$)	1076	100	6264.4	(43/2$^+$)		
7371.6	(49/2$^-$)	548.2 *2*	100 *7*	6823.4	(47/2$^-$)		
		1049.3 *3*	43 *7*	6322.4	(45/2$^-$)		
7534.5	(47/2$^+$)	1016	100	6518.5	(43/2$^+$)		
7858.8	(49/2$^+$)	1094		6764.8	(45/2$^+$)		

$^{133}_{59}Pr_{74}$-16

Adopted Levels, Gammas (continued)

γ(^{133}Pr) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Comments
7969.2	(51/2⁻)	597.6 *3*	100 *14*	7371.6	(49/2⁻)	
		1145.7 *5*	31 *14*	6823.4	(47/2⁻)	
8122.1	(51/2⁻)	1039	100	7083.1	(47/2⁻)	
8477.4	(51/2⁺)	1137	100	7340.4	(47/2⁺)	
8613.8	(53/2⁻)	644.7 *3*	100 *24*	7969.2	(51/2⁻)	
		1242.2 *5*	48 *24*	7371.6	(49/2⁻)	
8621.5	(51/2⁺)	1087	100	7534.5	(47/2⁺)	
9016.8	(53/2⁺)	1158	100	7858.8	(49/2⁺)	
9200.1	(55/2⁻)	1078	100	8122.1	(51/2⁻)	
9666.4	(55/2⁺)	1189	100	8477.4	(51/2⁺)	
10227.8	(57/2⁺)	1211	100	9016.8	(53/2⁺)	
10342.1	(59/2⁻)	1142	100	9200.1	(55/2⁻)	
10909.4	(59/2⁺)	1243	100	9666.4	(55/2⁺)	
11561.1	(63/2⁻)	1219	100	10342.1	(59/2⁻)	
12200.4	(63/2⁺)	1291	100	10909.4	(59/2⁺)	
12860	(67/2⁻)	1299	100	11561.1	(63/2⁻)	
14211	(71/2⁻)	1351	100	12860	(67/2⁻)	
390.0+y	J+1	390	100	y	(51/2)	
800.0+y	J+2	410		390.0+y	J+1	
		800	100	y	(51/2)	
1230.0+y	J+3	430	20 *3*	800.0+y	J+2	
		840	100 *5*	390.0+y	J+1	
1671.0+y	J+4	441	17 *5*	1230.0+y	J+3	
		871	100 *3*	800.0+y	J+2	
2138.0+y	J+5	467		1671.0+y	J+4	
		908	100	1230.0+y	J+3	
2614.0+y	J+6	476	19 *5*	2138.0+y	J+5	
		943	100 *4*	1671.0+y	J+4	
3117.0+y	J+7	979	100	2138.0+y	J+5	
3627.0+y	J+8	1013	100	2614.0+y	J+6	
4167.0+y	J+9	1050	100	3117.0+y	J+7	
4712.0+y	J+10	1085	100	3627.0+y	J+8	
5288.0+y	J+11	1121	100	4167.0+y	J+9	
5868.0+y	J+12	1156	100	4712.0+y	J+10	
6480.0+y	J+13	1192	100	5288.0+y	J+11	E_γ: 1195 (1997Ha05).
7096.0+y	J+14	1228	100	5868.0+y	J+12	
7745+y	J+15	1265	100	6480.0+y	J+13	E_γ: 1269 (1997Ha05).
8395+y	J+16	1299		7096.0+y	J+14	
9066+y	J+17	1321	100	7745+y	J+15	E_γ: 1345 (1997Ha05).
9775+y	J+18	1380	100	8395+y	J+16	
10478+y	J+19	1412	100	9066+y	J+17	E_γ: 1429 (1997Ha05).
11225+y	J+20	1450	100	9775+y	J+18	

$^{133}_{59}Pr_{74}$-17

Adopted Levels, Gammas (continued)

$\gamma(^{133}Pr)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π
11967+y	J+21	1489	100	10478+y	J+19	16356+z	J1+26	1736	100	14620+z	J1+24
12755+y	J+22	1530	100	11225+y	J+20	821.0+u	J2+2	821	100	u	(55/2)
784.0+z	J1+2	784	100	z	(53/2)	1706.0+u	J2+4	885	100	821.0+u	J2+2
1638.0+z	J1+4	854	100	784.0+z	J1+2	2667.0+u	J2+6	961	100	1706.0+u	J2+4
2571.0+z	J1+6	933	100	1638.0+z	J1+4	3702.0+u	J2+8	1035	100	2667.0+u	J2+6
3584.0+z	J1+8	1013	100	2571.0+z	J1+6	4812.0+u	J2+10	1110	100	3702.0+u	J2+8
4682.0+z	J1+10	1098	100	3584.0+z	J1+8	5996.0+u	J2+12	1184	100	4812.0+u	J2+10
5864.0+z	J1+12	1182	100	4682.0+z	J1+10	7260+u	J2+14	1264	100	5996.0+u	J2+12
7130+z	J1+14	1266	100	5864.0+z	J1+12	8602+u	J2+16	1342	100	7260+u	J2+14
8481+z	J1+16	1351	100	7130+z	J1+14	10022+u	J2+18	1420	100	8602+u	J2+16
9909+z	J1+18	1428	100	8481+z	J1+16	11522+u	J2+20	1500	100	10022+u	J2+18
11399+z	J1+20	1490	100	9909+z	J1+18	13098+u	J2+22	1576	100	11522+u	J2+20
12971+z	J1+22	1572	100	11399+z	J1+20	14754+u	J2+24	1656	100	13098+u	J2+22
14620+z	J1+24	1649	100	12971+z	J1+22						

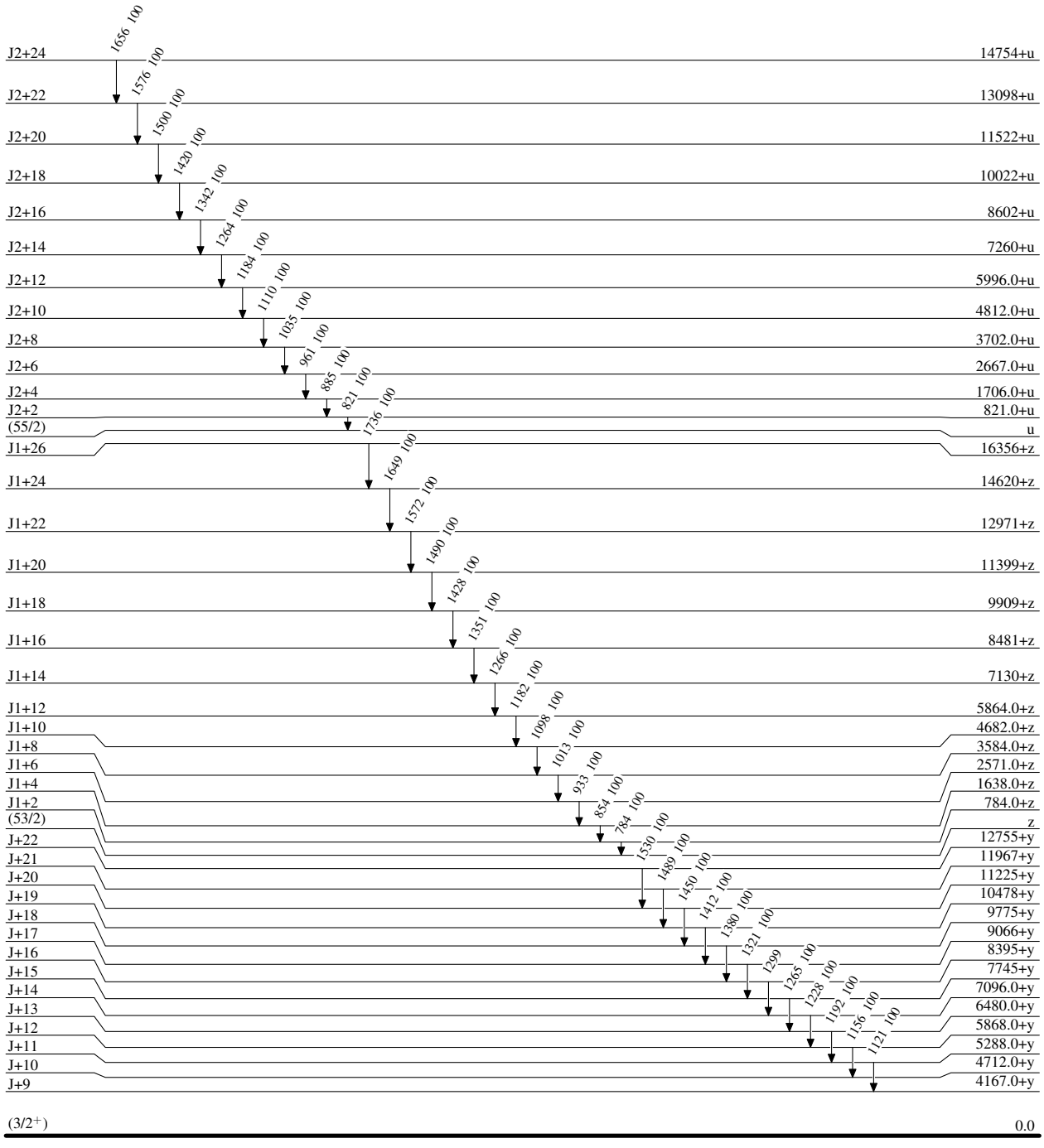
[†] From (HI,xnγ), unless otherwise stated.
[‡] From α(exp), DCO, γ(lin pol) values.
[#] From ^{133}Nd ε decay (70 s).
[@] From ^{133}Nd ε decay ($\approx$70 s).
[&] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.
[a] Multiply placed with intensity suitably divided.
[b] Placement of transition in the level scheme is uncertain.

$^{133}_{59}Pr_{74}$-18

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

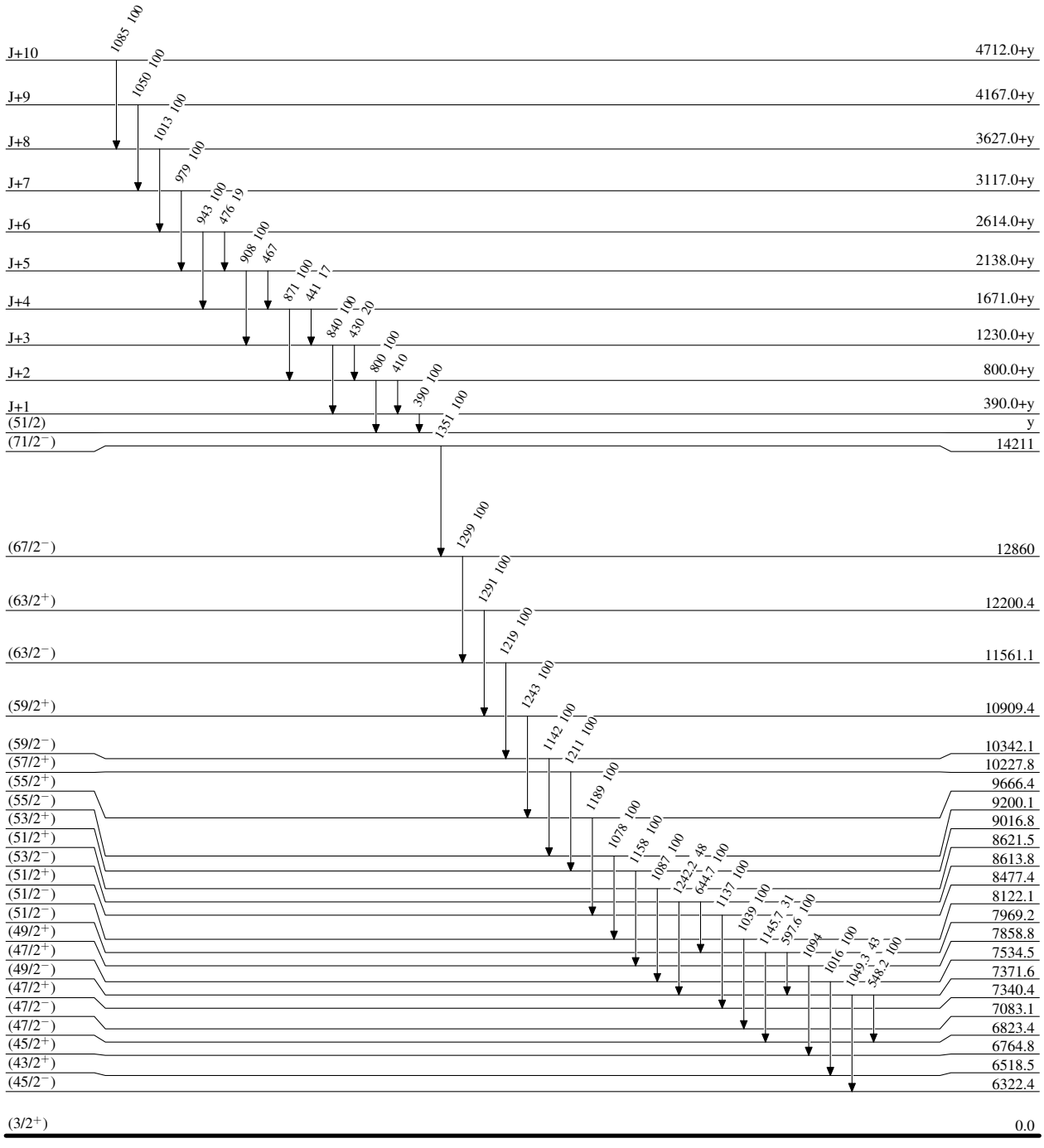


$^{133}_{59}Pr_{74}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{133}_{59}Pr_{74}$

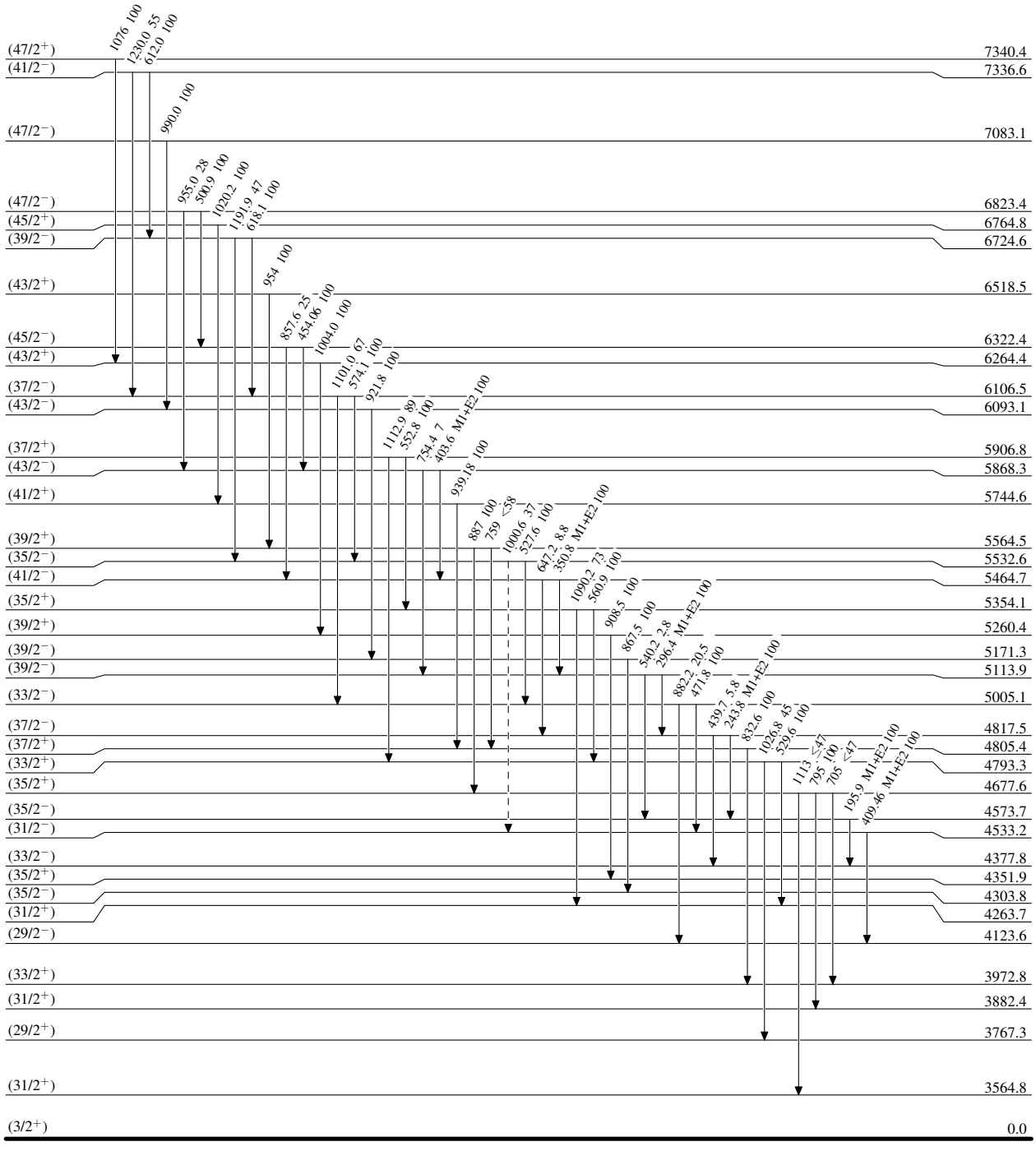
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)

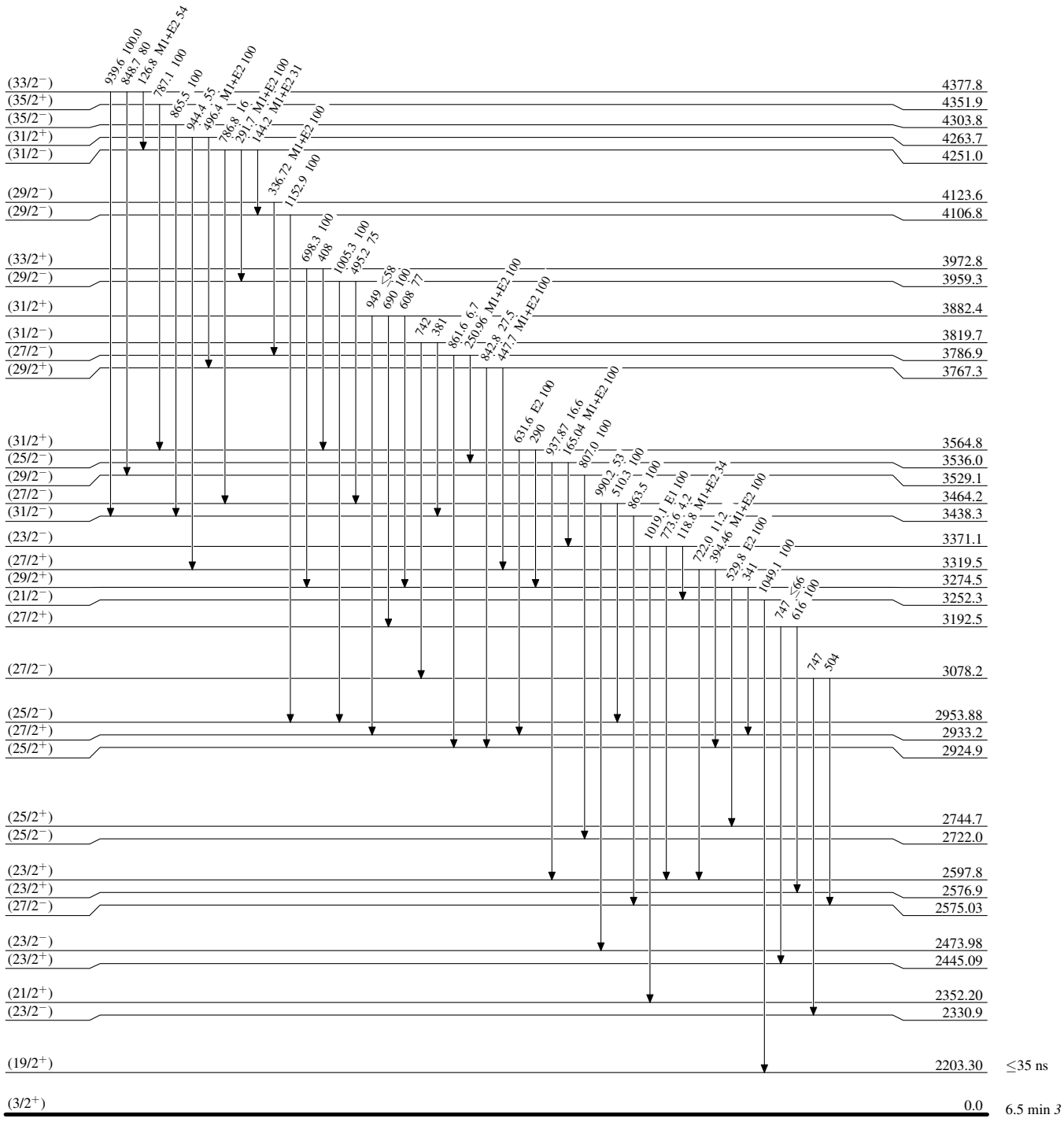


$^{133}_{59}Pr_{74}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

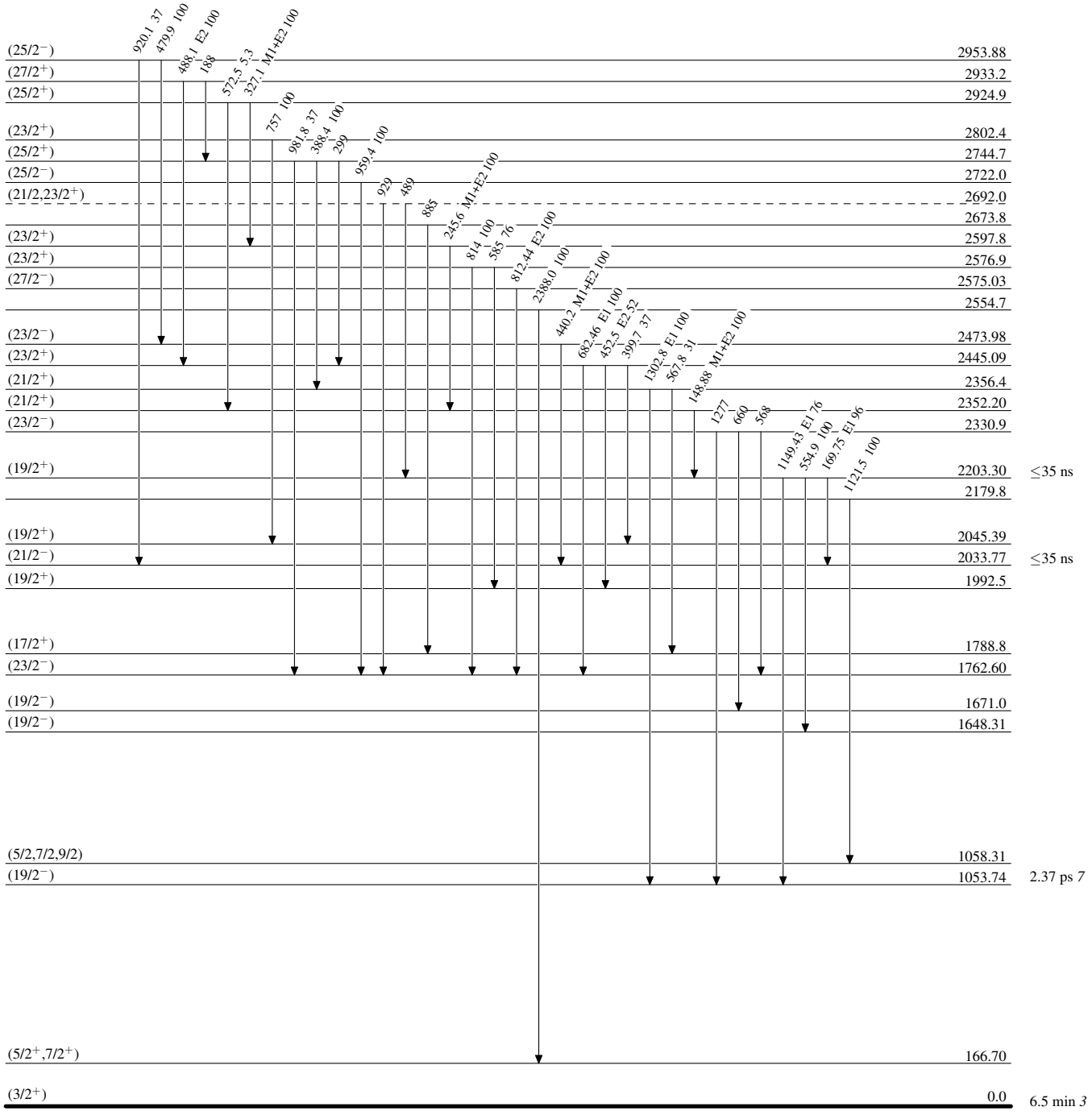


$^{133}_{59}Pr_{74}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{133}_{59}Pr_{74}$

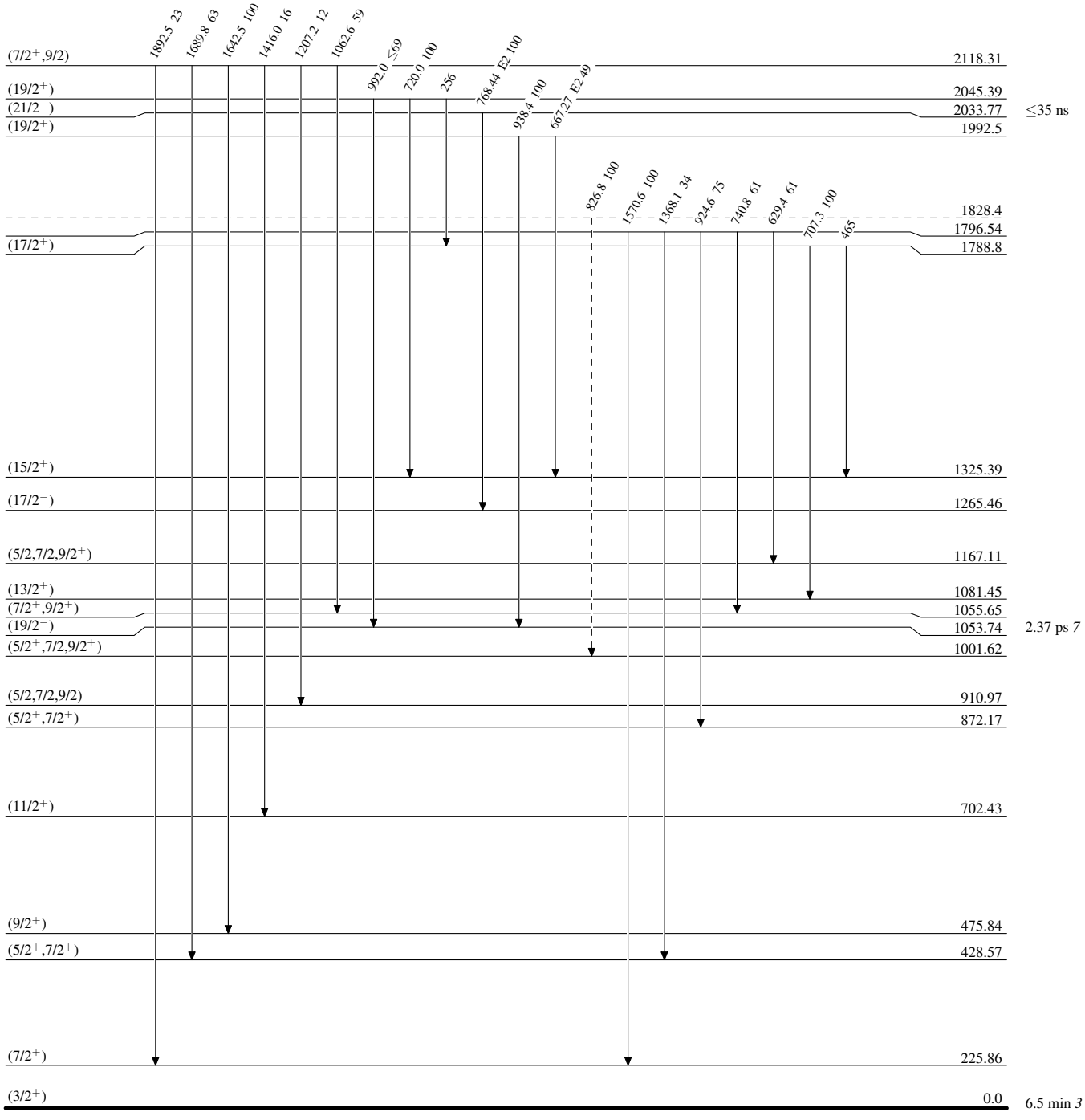
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

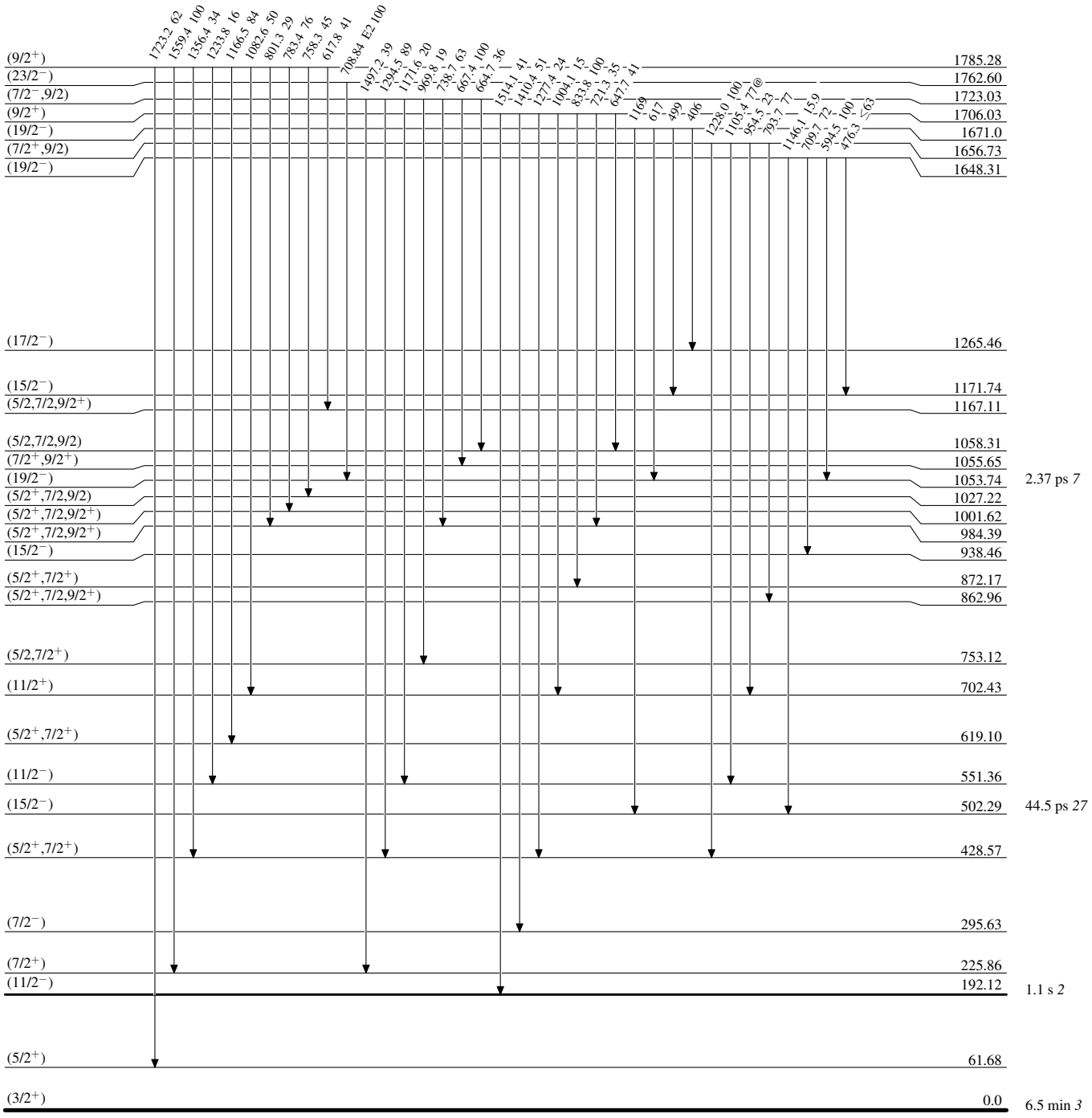


$^{133}_{59}Pr_{74}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided



$^{133}_{59}Pr_{74}$

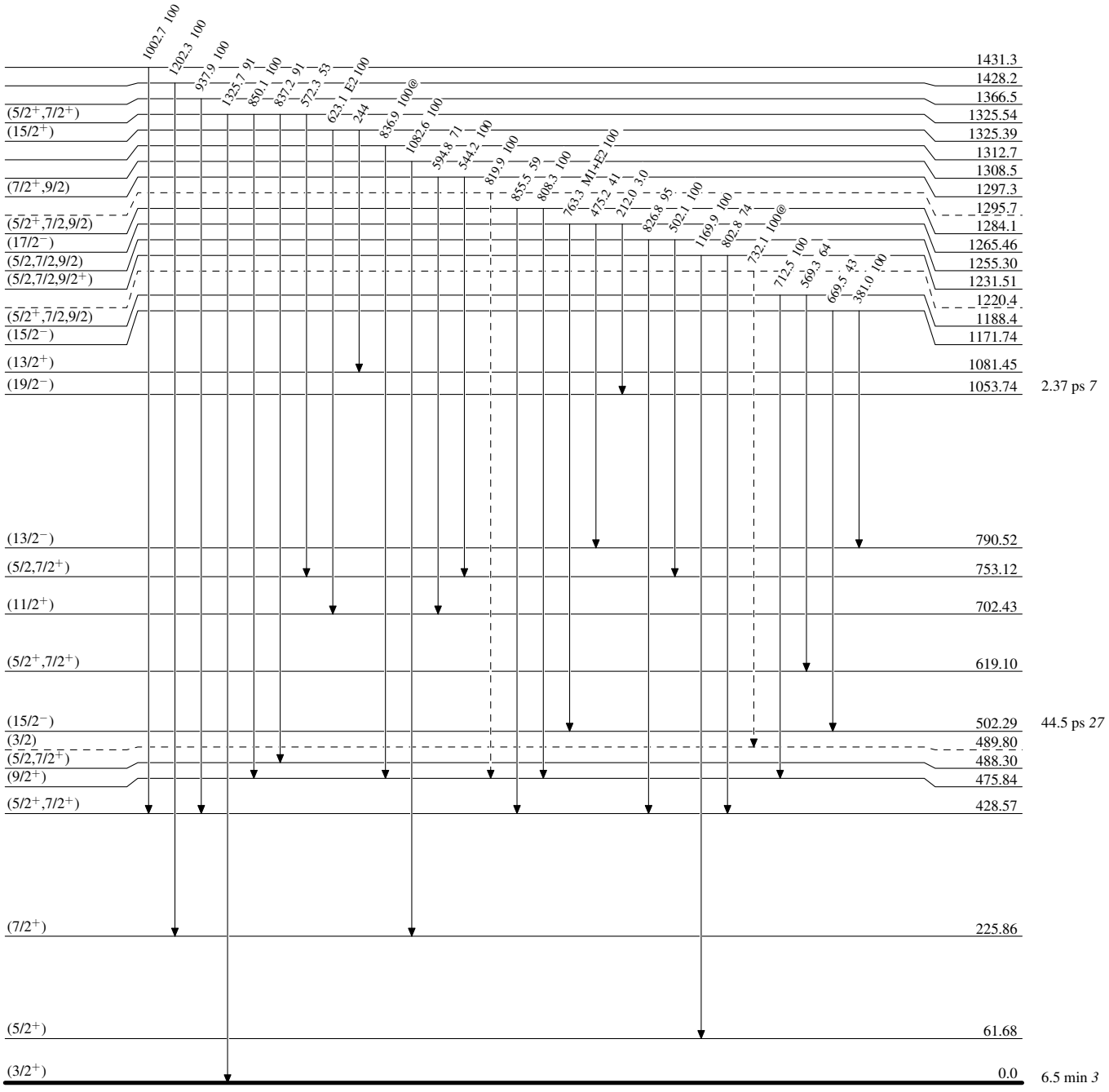
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided

γ Decay (Uncertain)

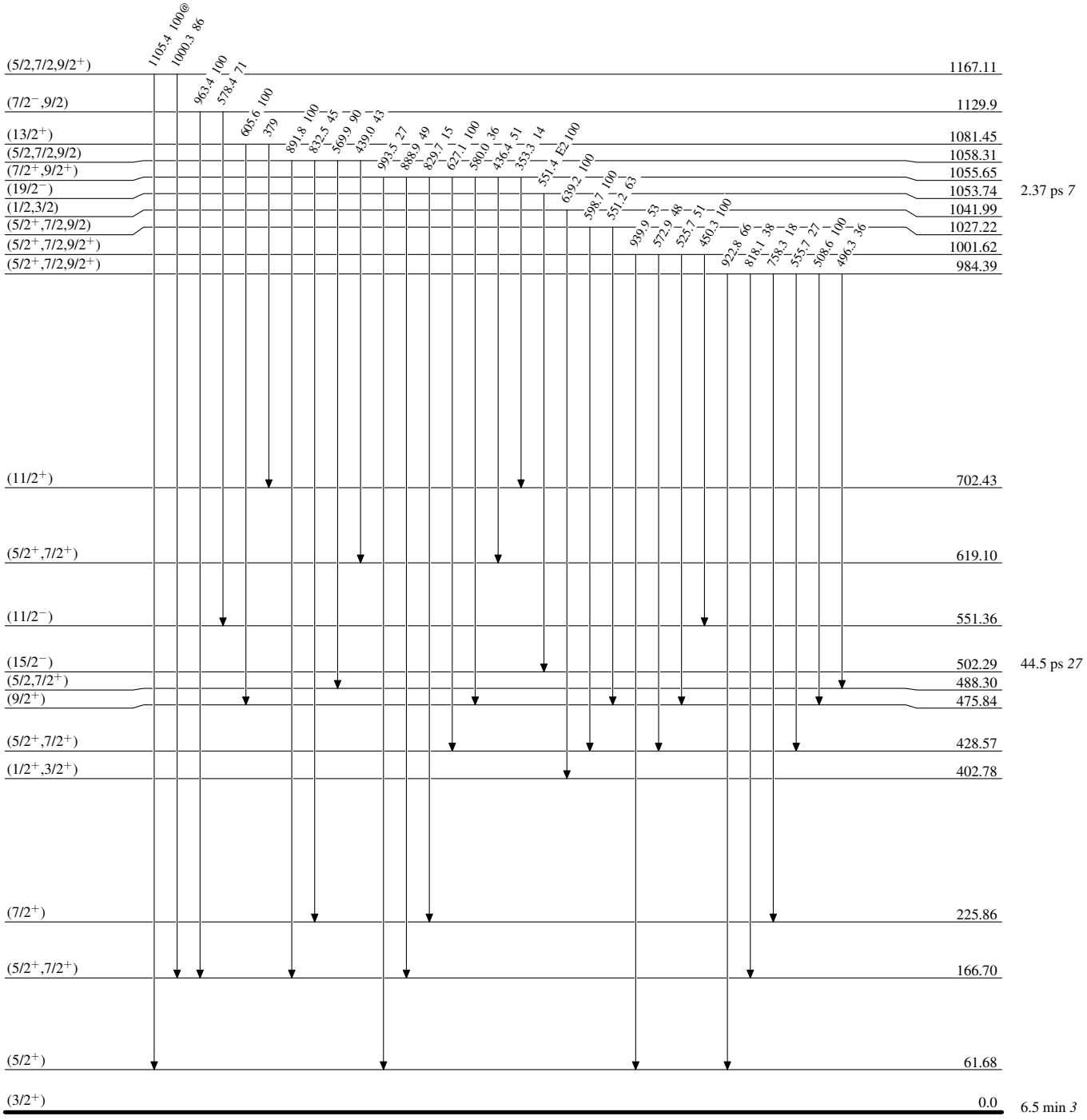


$^{133}_{59}Pr_{74}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided



$^{133}_{59}Pr_{74}$

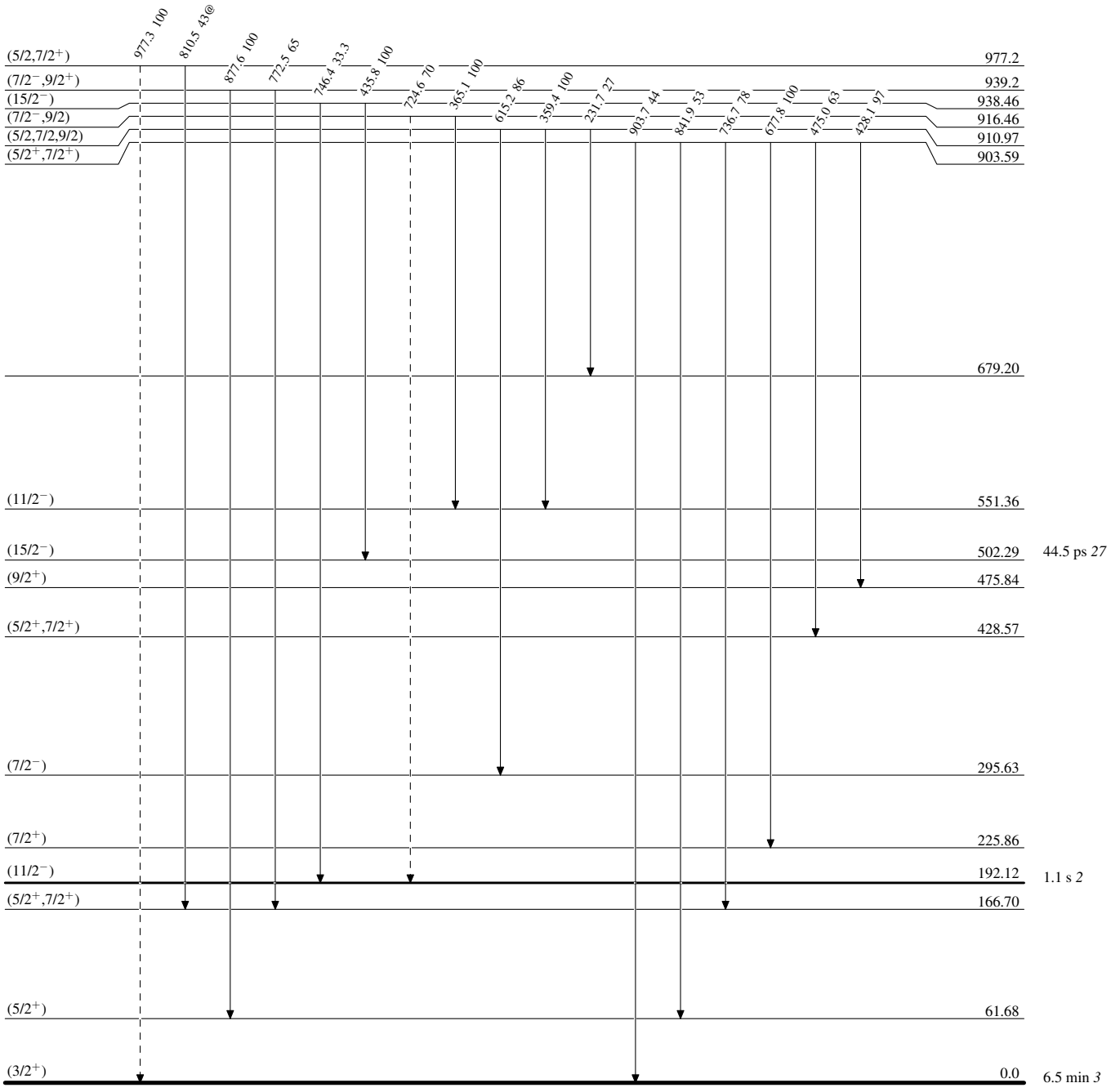
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided

– – – – – – ► γ Decay (Uncertain)

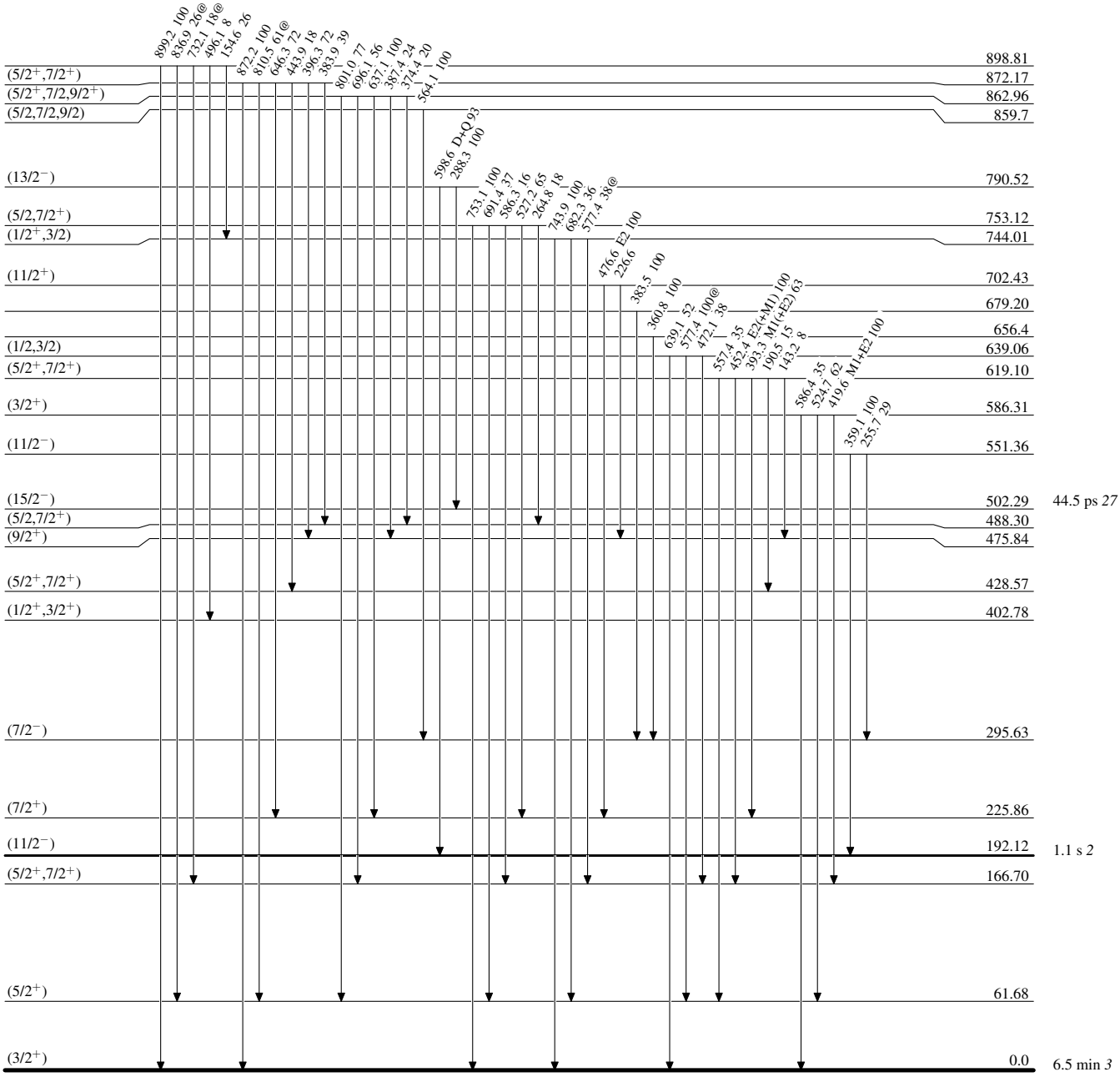


$^{133}_{59}Pr_{74}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided



$^{133}_{59}Pr_{74}$

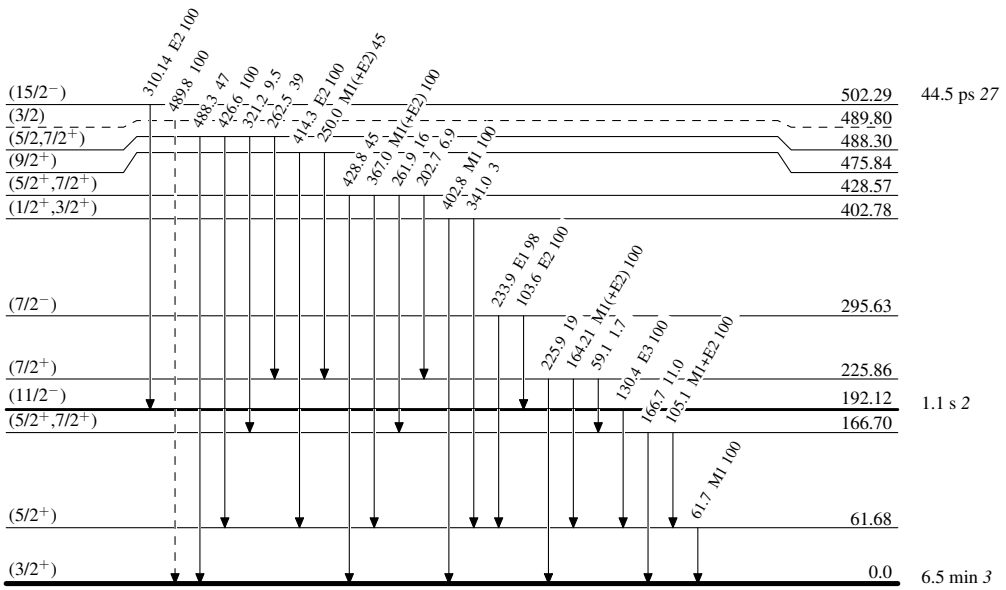
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided

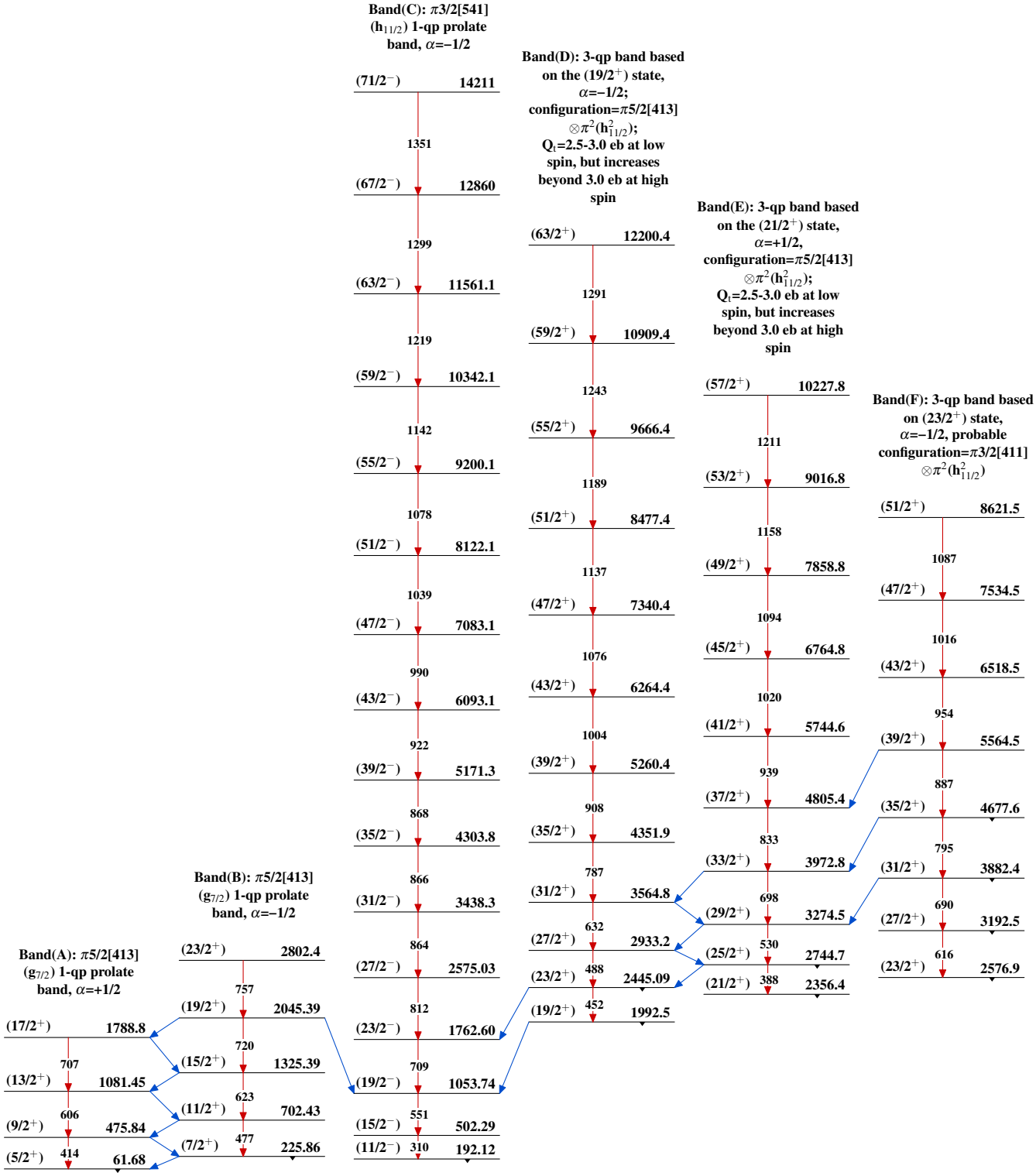
Legend

- - - - - - ► γ Decay (Uncertain)

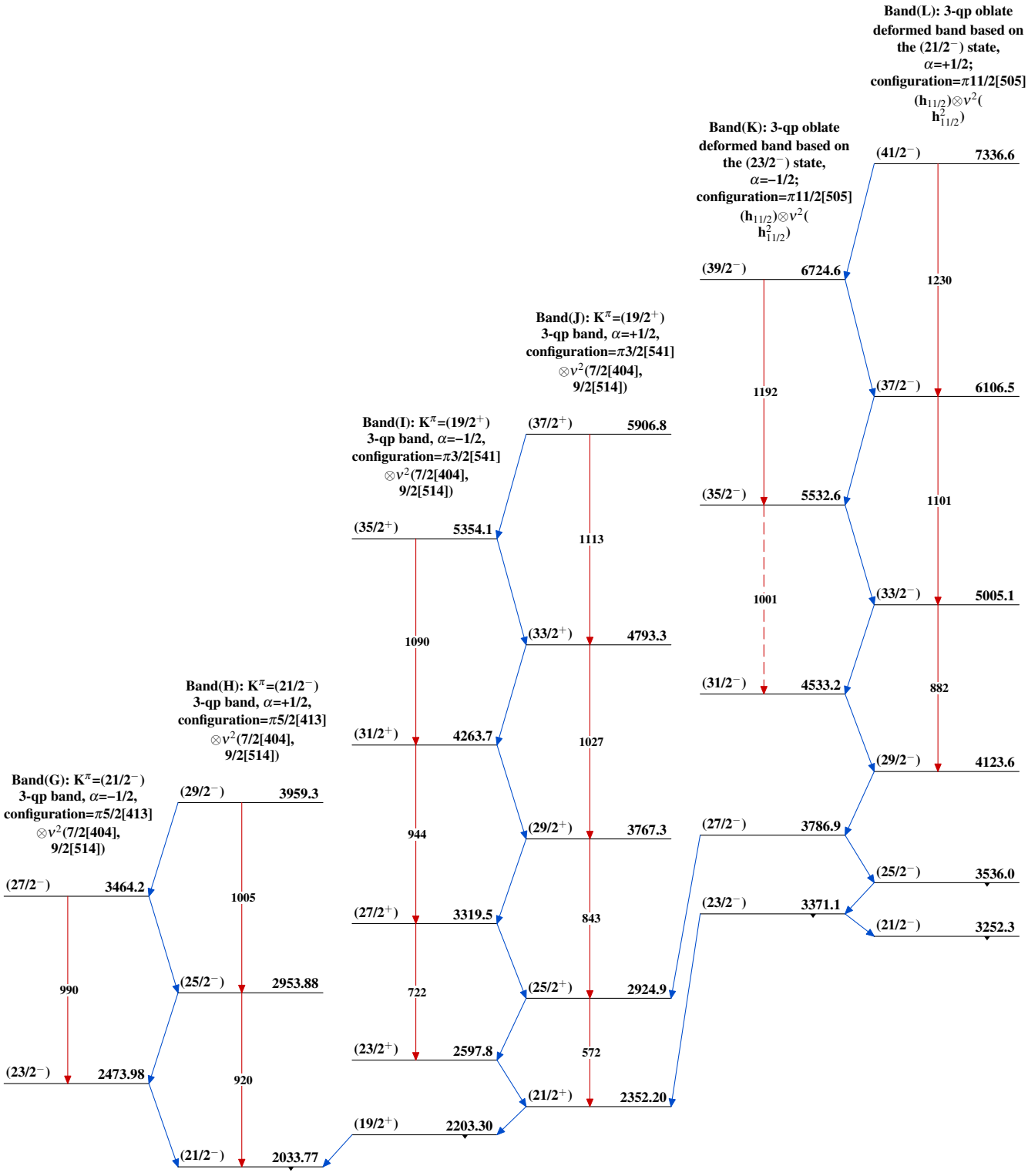


$^{133}_{59}Pr_{74}$

Adopted Levels, Gammas

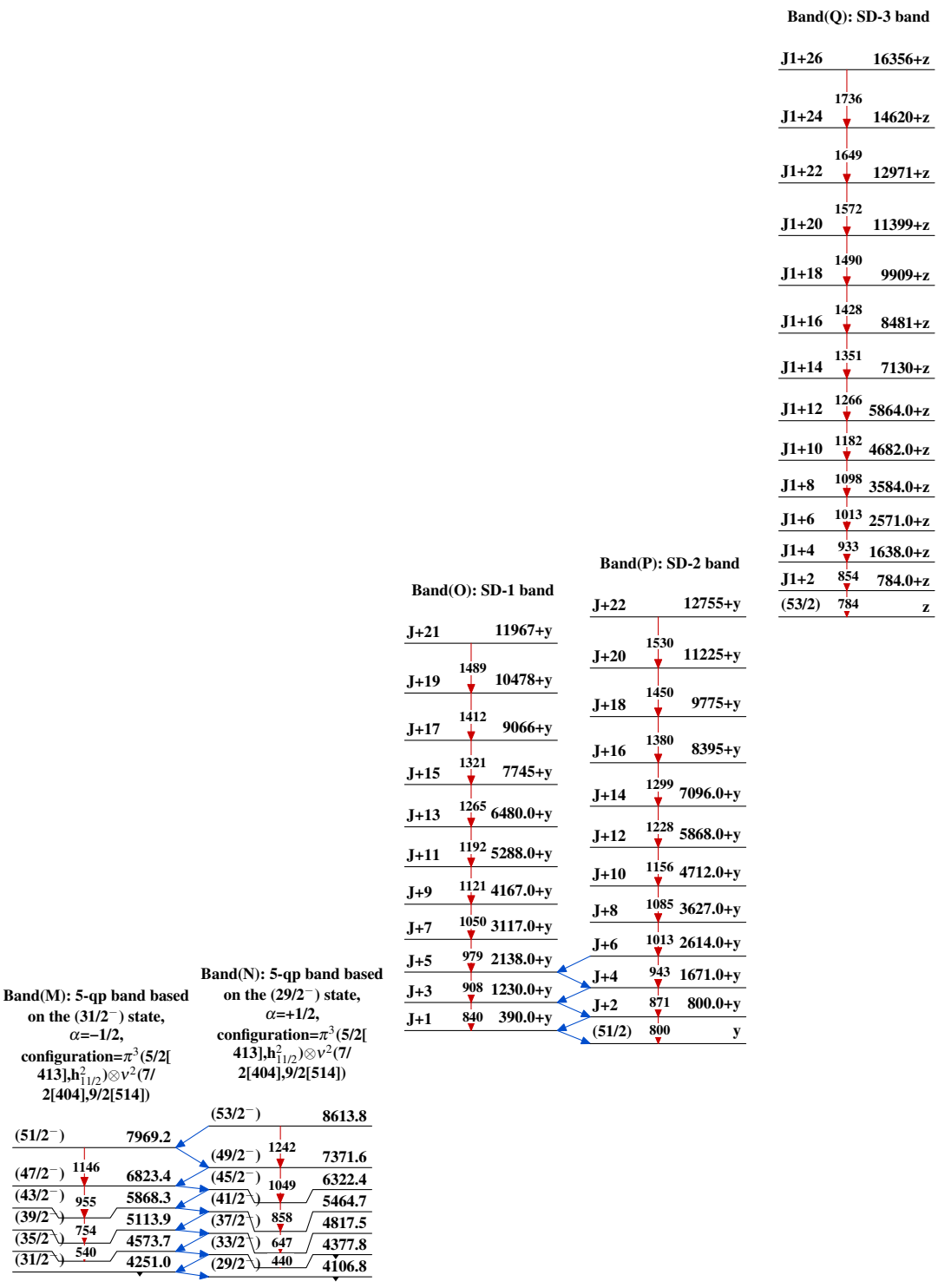


Adopted Levels, Gammas (continued)

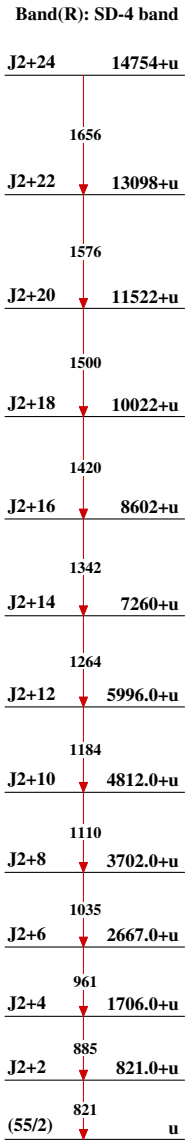


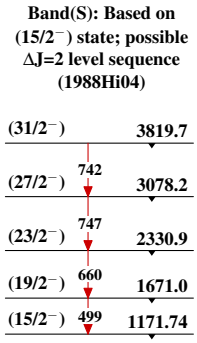
$^{133}_{59}Pr_{74}$

Adopted Levels, Gammas (continued)



Adopted Levels, Gammas (continued)





$^{133}_{59}Pr_{74}$