^{149}Ho ε decay (21.0 s) 1994Me13,1990AlZH

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 185, 2 (2022)	23-Aug-2022

Parent: ^{149}Ho: E=0.0; J$^{\pi}$=(11/2^{-}); T$_{1/2}$=21.0 s *2*; Q(ε)=6048 *13*; %ε+%β^{+} decay=100.0

^{149}Ho-J$^{\pi}$,T$_{1/2}$: From ^{149}Ho Adopted Levels.

^{149}Ho-Q(ε): From 2021Wa16.

1994Me13 (also 1989Me13): ^{149}Ho ions were produced via fusion-evaporation reactions with 5.4 MeV/nucleon ^{58}Ni beam on ^{94,95}Mo targets at ISOLDE, GSI, separated by the GSI online separator and deposited on a transport tape. The γ- and x-rays were detected with a planar and two coaxial Ge(Li) detectors. Measured Eγ, Iγ, I(x-ray), $\gamma\gamma$-coin, γ(x-ray)coin, γ(t). Deduced levels, J^{π}, parent T$_{1/2}$, conversion coefficients, γ-ray multipolarities, GT strengths. Comparisons with TAGS spectrum in 1990AlZU, and with theoretical calculations. Configurations are suggested for all the levels reported in this decay.

1990AlZH (also 1993Al03, 1991AlZY,1990AlZU,1990AlZJ): measured total-absorption gamma spectrum (TAGS); deduced I(ε+β^{+}) feedings and β-strength functions.

Others:

γ, $\gamma\gamma$: 1979To01 (three γ rays reported), 1982Ba75 (two γ rays reported), 1987ElZZ.

T$_{1/2}$ (^{149}Ho): 1979To01, 1982Ba75, 1993Al03.

Q(ε): 1993Al03 (from total γ absorption), 1991Ke11 ($\beta^{+}\gamma$), 1984HaZD (ε/β^{+}), 1983Al06 (β^{+},γ).

For the decay scheme, high-resolution γ-ray study in 1994Me13 gives total decay energy deposit of 5610 keV *260* as compared to the expected value of 6048 keV *13*. TAGS data in 1990AlZH suggests that ≈25% of I(ε+β^{+}) intensity above 1070 keV is missing discrete γ-ray data, but much of this missing intensity seems collected in the γ-ray intensity of the 1090.7-keV γ ray, as the transition intensity balance at the 1090.7-keV level gives apparent I(ε+β^{+}) feeding of 59% versus 33% from TAGS data.

^{149}Dy Levels

The decay scheme is mainly from 1994Me13, with pseudolevels added from TAGS data, where no high-resolution γ-ray data are available in 1994Me13.

E(level)†	J$^{\pi}$@	T$_{1/2}$@
0.0	7/2^{-}	4.2 min *2*
855?‡# *14*		
884?‡# *14*		
912?‡# *14*		
941?‡# *14*		
969?‡# *14*		
1073.31 *9*	(13/2)$^{+}$	
1090.74 *12*	(9/2^{-})	
1197‡ *14*		
1226?‡ *14*		
1254?‡ *14*		
1283‡ *14*		
1311?‡ *14*		
1340?‡ *14*		
1368?‡ *14*		
1397?‡ *14*		
1425‡ *14*		
1454‡ *14*		
1482‡ *14*		
1511‡ *14*		
1539‡ *14*		
1583.60 *14*	(11/2^{-})	
1663.45 *16*	(9/2^{+})	
1703.73 *20*	(11/2)$^{+}$	
1712.80 *18*	(9/2^{-})	
1738‡ *14*		
1782.21? *30*	(7/2^{+})	
1795‡ *14*		
1824‡ *14*		
1853‡ *14*		
1881‡ *14*		
1910‡ *14*		
1938‡ *14*		
1967‡ *14*		
1995‡ *14*		
2023‡ *14*		
2052?‡ *14*		
2081‡ *14*		
2109‡ *14*		
2138‡ *14*		

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^{149}Ho ε decay (21.0 s) 1994Me13,1990AlZH (continued)

^{149}Dy Levels (continued)

E(level)†	J^{π}@
2165.86 *28*	(9/2,11/2,13/2)$^+$
2223‡ *14*	
2252‡ *14*	
2291.81 *22*	(11/2$^-$,13/2$^-$)
2312.22 *30*	(9/2$^-$,11/2$^-$)
2321.19 *24*	(9/2$^-$,11/2$^-$)
2358.0 *6*	(9/2$^-$,11/2$^-$)
2402.51 *31*	(11/2$^-$,13/2$^-$)
2409.18 *22*	(9/2$^-$,11/2$^-$)
2466.24 *29*	(9/2$^-$,11/2$^-$)
2487.24 *19*	(9/2$^-$,11/2$^-$)
2537‡ *14*	
2565‡ *14*	
2594‡ *14*	
2607.10 *26*	(11/2$^-$)
2651‡ *14*	
2679‡ *14*	
2718.5? *4*	(9/2$^-$,11/2$^-$)
2728.65 *32*	(9/2$^-$,11/2$^-$,13/2$^-$)
2789.18 *22*	(9/2$^-$,11/2$^-$)
2827.34 *19*	(11/2$^-$)
2882.83 *23*	(11/2$^-$,13/2$^-$)
2907‡ *14*	
2936‡ *14*	
2964‡ *14*	
2980.41 *25*	(9/2$^-$,11/2$^-$)
3014.2? *4*	(9/2$^-$,11/2$^-$)
3049.6 *4*	(9/2$^-$,11/2$^-$,13/2$^-$)
3079.13 *14*	(11/2$^-$)
3129.52 *20*	(11/2$^-$)
3180.05 *23*	(9/2$^-$,11/2$^-$,13/2$^-$)
3202.55 *29*	(9/2$^-$,11/2$^-$)
3249‡ *14*	
3277‡ *14*	
3312.52 *30*	(9/2$^-$,11/2$^-$,13/2$^-$)
3348.66 *32*	(9/2$^-$,11/2$^-$,13/2$^-$)
3362.8 *4*	(9/2$^-$,11/2$^-$)
3392‡ *14*	
3420‡ *14*	
3449‡ *14*	
3490.42 *25*	(9/2$^-$,11/2$^-$)
3534‡ *14*	

E(level)†
3563‡ *14*
3591‡ *14*
3620‡ *14*
3648‡ *14*
3677‡ *14*
3705‡ *14*
3734‡ *14*
3762‡ *14*
3791‡ *14*
3819‡ *14*
3848‡ *14*
3876‡ *14*
3905‡ *14*
3933‡ *14*
3962‡ *14*
3990‡ *14*
4019‡ *14*
4047‡ *14*
4076‡ *14*
4104‡ *14*
4133‡ *14*
4161‡ *14*
4190‡ *14*
4218‡ *14*
4247‡ *14*
4275‡ *14*
4304‡ *14*
4332‡ *14*
4361‡ *14*
4389‡ *14*
4418‡ *14*
4446‡ *14*
4475‡ *14*
4503‡ *14*
4532‡ *14*
4560‡ *14*
4589‡ *14*
4617‡ *14*
4646‡ *14*
4674‡ *14*
4703‡ *14*
4731‡ *14*

E(level)†
4760‡ *14*
4788‡ *14*
4817‡ *14*
4845‡ *14*
4874‡ *14*
4902‡ *14*
4931‡ *14*
4959‡ *14*
4988‡ *14*
5016‡ *14*
5045‡ *14*
5073‡ *14*
5102‡ *14*
5130‡ *14*
5159‡ *14*
5187‡ *14*
5216‡ *14*
5244‡ *14*
5273‡ *14*
5301‡ *14*
5330‡ *14*
5358‡ *14*
5387‡ *14*
5415?‡ *14*
5444?‡ *14*
5472‡ *14*
5501‡ *14*
5529‡ *14*
5558‡ *14*
5586‡ *14*
5615‡ *14*
5643?‡ *14*
5672?‡ *14*
5700‡ *14*
5729‡ *14*
5757‡ *14*
5786‡ *14*
5814‡ *14*
5843‡ *14*
5871‡ *14*

† From a least-squares fit to γ-ray energies, except for the pseudolevels, which are taken from TAGS data in 1990AlZH.

‡ Pseudolevel from TAGS data in 1990AlZH; uncertainty is from bin width of 28.5 keV in the analysis of TAGS data.

No excited states in ^{149}Dy have been reported below 1034 keV in any of the decays or reactions, thus this pseudolevel and associated weak I(ε+β$^+$) feeding is treated by evaluators as questionable.

@ From the Adopted Levels.

^{149}Ho ε decay (21.0 s) 1994Me13,1990AlZH (continued)

ε,β^+ radiations

E(decay)	E(level)	Iε[a]	I($\varepsilon+\beta^+$)[†a]	Comments
(177 *19*)	5871	0.003	0.003[‡]	εK=0.736 *20*; εL=0.200 *15*; εM+=0.064 *6*
(205 *19*)	5843	0.003	0.003[‡]	εK=0.756 *13*; εL=0.186 *10*; εM+=0.058 *4*
(234 *19*)	5814	0.010	0.010[‡]	εK=0.770 *9*; εL=0.175 *7*; εM+=0.0546 *23*
(262 *19*)	5786	0.018	0.018[‡]	εK=0.780 *7*; εL=0.168 *5*; εM+=0.0520 *17*
(291 *19*)	5757	0.021	0.021[‡]	εK=0.787 *5*; εL=0.163 *4*; εM+=0.0500 *13*
(319 *19*)	5729	0.011	0.011[‡]	εK=0.793 *4*; εL=0.158 *3*; εM+=0.0485 *10*
(348 *19*)	5700	0.008	0.008[‡]	εK=0.798 *3*; εL=0.1549 *23*; εM+=0.0472 *8*
(376[b] *19*)	5672?		[#]	I(ε)=−0.005%.
(405[b] *19*)	5643?		[#]	I(ε)=−0.002%.
(433 *19*)	5615	0.004	0.004[‡]	εK=0.8078 *18*; εL=0.1476 *14*; εM+=0.0446 *5*
(462 *19*)	5586	0.013	0.013[‡]	εK=0.8102 *16*; εL=0.1458 *12*; εM+=0.0440 *4*
(490 *19*)	5558	0.016	0.016[‡]	εK=0.8122 *14*; εL=0.1444 *10*; εM+=0.0435 *4*
(519 *19*)	5529	0.009	0.009[‡]	εK=0.8140 *12*; εL=0.1430 *9*; εM+=0.0430 *3*
(547 *19*)	5501	0.008	0.008[‡]	εK=0.8156 *11*; εL=0.1419 *8*; εM+=0.0426 *3*
(576 *19*)	5472	0.002	0.002[‡]	εK=0.8170 *10*; εL=0.1408 *7*; εM+=0.04222 *25*
(604[b] *19*)	5444?		[#]	I(ε)=−0.001%.
(633[b] *19*)	5415?		[#]	I(ε)=−0.002%.
(661 *19*)	5387	0.005	0.005[‡]	εK=0.8204 *7*; εL=0.1383 *5*; εM+=0.04133 *18*
(690 *19*)	5358	0.013	0.013[‡]	εK=0.8213 *7*; εL=0.1376 *5*; εM+=0.04108 *16*
(718 *19*)	5330	0.021	0.021[‡]	εK=0.8222 *6*; εL=0.1369 *5*; εM+=0.04086 *15*
(747 *19*)	5301	0.016	0.016[‡]	εK=0.8230 *6*; εL=0.1364 *4*; εM+=0.04066 *14*
(775 *19*)	5273	0.013	0.013[‡]	εK=0.8237 *5*; εL=0.1358 *4*; εM+=0.04047 *13*
(804 *19*)	5244	0.005	0.005[‡]	εK=0.8244 *5*; εL=0.1353 *4*; εM+=0.04030 *12*
(832 *19*)	5216	0.010	0.010[‡]	εK=0.8250 *4*; εL=0.1349 *3*; εM+=0.04014 *11*
(861 *19*)	5187	0.017	0.017[‡]	εK=0.8256 *4*; εL=0.1344 *3*; εM+=0.03999 *10*
(889 *19*)	5159	0.023	0.023[‡]	εK=0.8261 *4*; εL=0.1341 *3*; εM+=0.03985 *10*
(918 *19*)	5130	0.025	0.025[‡]	εK=0.8266 *4*; εL=0.13369 *25*; εM+=0.03972 *9*
(946 *19*)	5102	0.018	0.018[‡]	εK=0.8271 *3*; εL=0.13335 *23*; εM+=0.03960 *8*
(975 *19*)	5073	0.004	0.004[‡]	εK=0.8275 *3*; εL=0.13302 *22*; εM+=0.03949 *8*
(1003 *19*)	5045	0.009	0.009[‡]	εK=0.8279 *3*; εL=0.13272 *21*; εM+=0.03938 *7*
(1032 *19*)	5016	0.005	0.005[‡]	εK=0.8283 *3*; εL=0.13243 *19*; εM+=0.03928 *7*
(1060 *19*)	4988	0.022	0.022[‡]	εK=0.8287 *3*; εL=0.13216 *18*; εM+=0.03919 *7*
(1089 *19*)	4959	0.014	0.014[‡]	εK=0.8290 *3*; εL=0.13190 *17*; εM+=0.03910 *6*
(1117 *19*)	4931	0.029	0.029[‡]	εK=0.8293 *3*; εL=0.13167 *16*; εM+=0.03901 *6*
(1146 *19*)	4902	0.041	0.041[‡]	εK=0.8296 *2*; εL=0.13143 *16*; εM+=0.03893 *6*
(1174 *19*)	4874	0.046	0.046[‡]	εK=0.8299 *2*; εL=0.13122 *15*; εM+=0.03886 *5*
(1203 *19*)	4845	0.050	0.050[‡]	εK=0.8302 *2*; εL=0.13101 *14*; εM+=0.03878 *5*
(1231 *19*)	4817	0.042	0.042[‡]	εK=0.8304 *2*; εL=0.13081 *14*; εM+=0.03871 *5*
(1260 *19*)	4788	0.038	0.038[‡]	εK=0.8306 *2*; εL=0.1306 *2*; εM+=0.03865 *5*
(1288 *19*)	4760	0.021	0.021[‡]	εK=0.8308 *2*; εL=0.1304 *2*; εM+=0.03858 *5*
(1317 *19*)	4731	0.022	0.022[‡]	εK=0.8310 *1*; εL=0.1302 *2*; εM+=0.03852 *5*
(1345 *19*)	4703	0.037	0.037[‡]	εK=0.8311; εL=0.1301 *2*; εM+=0.03846 *5*
(1374 *19*)	4674	0.043	0.043[‡]	εK=0.8311; εL=0.1299 *2*; εM+=0.03840 *4*
(1402 *19*)	4646	0.041	0.041[‡]	εK=0.8312; εL=0.1297 *2*; εM+=0.03834 *4*

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^{149}Ho ε decay (21.0 s) 1994Me13,1990AlZH (continued)

ε,$β^+$ radiations (continued)

E(decay)	E(level)	$Iβ^+$ [a]	Iε [a]	Log ft [&]	$I(ε+β^+)$ [†a]	Comments
(1431 19)	4617		0.035		0.035[‡]	av Eβ=198.8 86; εK=0.8311; εL=0.1295 2; εM+=0.03827 4
(1459 19)	4589		0.050		0.050[‡]	av Eβ=211.2 85; εK=0.8310 1; εL=0.1294 2; εM+=0.03821 5
(1488 19)	4560		0.051		0.051[‡]	av Eβ=224.1 85; εK=0.8308 2; εL=0.1292 2; εM+=0.03815 5
(1516 19)	4532		0.063		0.063[‡]	av Eβ=236.5 87; εK=0.8306 2; εL=0.12898 13; εM+=0.03809 5
(1545 19)	4503		0.056		0.056[‡]	av Eβ=249.2 85; εK=0.8303 3; εL=0.12878 14; εM+=0.03802 5
(1573 19)	4475		0.071		0.071[‡]	av Eβ=261.7 86; εK=0.8299 4; εL=0.12858 15; εM+=0.03796 5
(1602 19)	4446		0.074		0.074[‡]	av Eβ=274.5 85; εK=0.8294 4; εL=0.12836 15; εM+=0.03789 5
(1630 19)	4418		0.071		0.071[‡]	av Eβ=286.8 84; εK=0.8288 5; εL=0.12814 16; εM+=0.03782 5
(1659 19)	4389	0.001	0.083		0.084[‡]	av Eβ=299.6 84; εK=0.8281 6; εL=0.12790 17; εM+=0.03774 6
(1687 19)	4361	0.001	0.103		0.104[‡]	av Eβ=311.9 84; εK=0.8273 6; εL=0.12766 18; εM+=0.03767 6
(1716 19)	4332	0.001	0.112		0.113[‡]	av Eβ=324.6 84; εK=0.8263 7; εL=0.12740 18; εM+=0.03758 6
(1744 19)	4304	0.001	0.128		0.129[‡]	av Eβ=336.9 84; εK=0.8253 8; εL=0.12713 19; εM+=0.03750 6
(1773 19)	4275	0.00123	0.105		0.106[‡]	av Eβ=349.6 84; εK=0.8241 9; εL=0.12684 21; εM+=0.03741 7
(1801 19)	4247	0.002	0.114		0.116[‡]	av Eβ=361.9 84; εK=0.8229 10; εL=0.12654 22; εM+=0.03732 7
(1830 19)	4218	0.001	0.096		0.097[‡]	av Eβ=374.6 84; εK=0.8214 11; εL=0.12622 23; εM+=0.03722 7
(1858 19)	4190	0.002	0.114		0.116[‡]	av Eβ=386.9 84; εK=0.8199 12; εL=0.12589 24; εM+=0.03711 8
(1887 19)	4161	0.002	0.100		0.102[‡]	av Eβ=399.6 84; εK=0.8182 13; εL=0.12553 25; εM+=0.03700 8
(1915 19)	4133	0.002	0.095		0.097[‡]	av Eβ=411.9 84; εK=0.8164 14; εL=0.1252 3; εM+=0.03689 8
(1944 19)	4104	0.003	0.110		0.113[‡]	av Eβ=424.7 84; εK=0.8144 15; εL=0.1248 3; εM+=0.03677 9
(1972 19)	4076	0.003	0.115		0.118[‡]	av Eβ=437.0 84; εK=0.8123 16; εL=0.1244 3; εM+=0.03665 9
(2001 19)	4047	0.004	0.128		0.132[‡]	av Eβ=449.7 84; εK=0.8100 17; εL=0.1239 3; εM+=0.03651 10
(2029 19)	4019	0.004	0.121		0.125[‡]	av Eβ=462.0 84; εK=0.8076 18; εL=0.1235 4; εM+=0.03638 10
(2058 19)	3990	0.005	0.134		0.139[‡]	av Eβ=474.7 84; εK=0.8049 19; εL=0.1230 4; εM+=0.03623 10
(2086 19)	3962	0.007	0.178		0.185[‡]	av Eβ=487.1 84; εK=0.8022 20; εL=0.1225 4; εM+=0.03609 11
(2115 19)	3933	0.010	0.213		0.223[‡]	av Eβ=499.8 85; εK=0.7993 21; εL=0.1220 4; εM+=0.03593 11
(2143 19)	3905	0.011	0.220		0.231[‡]	av Eβ=512.2 85; εK=0.7963 22; εL=0.1215 4; εM+=0.03577 12
(2172 19)	3876	0.011	0.206		0.217[‡]	av Eβ=524.9 85; εK=0.7930 23; εL=0.1209 4; εM+=0.03560 12

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^{149}Ho ε decay (21.0 s) 1994Me13,1990AlZH (continued)

ϵ,β^+ radiations (continued)

E(decay)	E(level)	Iβ^+ [a]	Iε[a]	Log ft[&]	I(ε+β^+)[†a]	Comments
(2200 *19*)	3848	0.011	0.195		0.206[‡]	av Eβ=537.3 *85*; εK=0.7896 *24*; εL=0.1203 *4*; εM+=0.03543 *12*
(2229 *19*)	3819	0.014	0.224		0.238[‡]	av Eβ=550.1 *85*; εK=0.7860 *25*; εL=0.1197 *5*; εM+=0.03524 *13*
(2257 *19*)	3791	0.016	0.232		0.248[‡]	av Eβ=562.4 *85*; εK=0.782 *3*; εL=0.1191 *5*; εM+=0.03506 *13*
(2286 *19*)	3762	0.018	0.250		0.268[‡]	av Eβ=575.2 *85*; εK=0.778 *3*; εL=0.1184 *5*; εM+=0.03486 *14*
(2314 *19*)	3734	0.019	0.241		0.260[‡]	av Eβ=587.6 *85*; εK=0.774 *3*; εL=0.1178 *5*; εM+=0.03466 *14*
(2343 *19*)	3705	0.021	0.253		0.274[‡]	av Eβ=600.4 *85*; εK=0.770 *3*; εL=0.1171 *5*; εM+=0.03445 *15*
(2371 *19*)	3677	0.022	0.247		0.269[‡]	av Eβ=612.8 *85*; εK=0.766 *3*; εL=0.1163 *5*; εM+=0.03425 *15*
(2400 *19*)	3648	0.027	0.273		0.300[‡]	av Eβ=625.6 *85*; εK=0.761 *3*; εL=0.1156 *5*; εM+=0.03402 *15*
(2428 *19*)	3620	0.033	0.312		0.345[‡]	av Eβ=638.0 *85*; εK=0.757 *4*; εL=0.1149 *6*; εM+=0.03380 *16*
(2457 *19*)	3591	0.027	0.239		0.266[‡]	av Eβ=650.8 *85*; εK=0.752 *4*; εL=0.1141 *6*; εM+=0.03357 *16*
(2485 *19*)	3563	0.047	0.394		0.441[‡]	av Eβ=663.3 *85*; εK=0.747 *4*; εL=0.1133 *6*; εM+=0.03333 *17*
(2514 *19*)	3534	0.047	0.374		0.421[‡]	av Eβ=676.1 *85*; εK=0.742 *4*; εL=0.1125 *6*; εM+=0.03309 *17*
(2558 *13*)	3490.42	0.1 *1*	0.6 *1*	5.4	0.7 *1*	av Eβ=695.5 *58*; εK=0.7339 *25*; εL=0.1112 *4*; εM+=0.03271 *12* I(ε+β^+): 0.417% for 3477 *14*; 0.457% for 3505 *14* from TAGS data (1990AlZH).
(2599 *19*)	3449	0.06	0.41		0.467[‡]	av Eβ=713.9 *85*; εK=0.726 *4*; εL=0.1099 *6*; εM+=0.03233 *18*
(2628 *19*)	3420	0.07	0.41		0.477[‡]	av Eβ=726.8 *86*; εK=0.720 *4*; εL=0.1090 *6*; εM+=0.03206 *18*
(2656 *19*)	3392	0.08	0.47		0.552[‡]	av Eβ=739.3 *86*; εK=0.715 *4*; εL=0.1081 *7*; εM+=0.03180 *19*
(2685 *13*)	3362.8	0.06 *2*	0.3 *1*	5.7	0.4 *1*	av Eβ=752.4 *59*; εK=0.709 *3*; εL=0.1072 *5*; εM+=0.03152 *13* I(ε+β^+): 0.643% for 3363 *14* from TAGS data (1990AlZH).
(2699 *13*)	3348.66	0.08 *2*	0.4 *1*	5.6	0.5 *1*	av Eβ=758.7 *58*; εK=0.706 *3*; εL=0.1067 *5*; εM+=0.03138 *13* I(ε+β^+): 0.743% for 3335 *14* from TAGS data (1990AlZH).
(2735 *13*)	3312.52	0.1 *1*	0.7 *2*	5.4	0.8 *2*	av Eβ=774.8 *58*; εK=0.698 *3*; εL=0.1055 *5*; εM+=0.03103 *13* I(ε+β^+): 0.802% for 3306 *14* from TAGS data (1990AlZH).
(2771 *19*)	3277	0.15	0.68		0.827[‡]	av Eβ=790.7 *86*; εK=0.690 *5*; εL=0.1043 *7*; εM+=0.03067 *20*
(2799 *19*)	3249	0.16	0.73		0.893[‡]	av Eβ=803.2 *86*; εK=0.684 *5*; εL=0.1033 *7*; εM+=0.03039 *20*
(2845 *13*)	3202.55	0.08 *2*	0.3 *1*	5.7	0.4 *1*	av Eβ=824.0 *59*; εK=0.674 *3*; εL=0.1017 *5*; εM+=0.02991 *14* I(ε+β^+): 1.043% for 3221 *14* from TAGS data (1990AlZH).
(2868 *13*)	3180.05	0.2 *1*	0.7 *1*	5.4	0.9 *1*	av Eβ=834.1 *59*; εK=0.669 *3*; εL=0.1009 *5*; εM+=0.02967 *14* I(ε+β^+): 1.143% for 3192 *14*; 1.119% for 3164 *14* from TAGS data (1990AlZH).
(2918 *13*)	3129.52	0.28 *4*	1.0 *2*	5.3	1.3 *2*	av Eβ=856.7 *59*; εK=0.657 *3*; εL=0.0991 *5*; εM+=0.02914 *14* I(ε+β^+): 1.160% for 3135 *14* from TAGS data (1990AlZH).
(2969 *13*)	3079.13	1.1 *1*	3.9 *2*	4.69 *2*	5.0 *2*	av Eβ=879.4 *59*; εK=0.645 *3*; εL=0.0973 *5*; εM+=0.02859 *14* I(ε+β^+): 1.290% for 3078 *14*; 1.213% for 3106 *14* from TAGS data (1990AlZH).
(2998 *13*)	3049.6	0.1 *1*	0.4 *1*	5.7	0.5 *1*	av Eβ=892.6 *59*; εK=0.638 *4*; εL=0.0962 *5*; εM+=0.02827 *15*

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^{149}Ho ε decay (21.0 s) 1994Me13,1990AlZH (continued)

ε,β^+ radiations (continued)

E(decay)	E(level)	Iβ^+ [a]	Iε [a]	Log *ft* [&]	I(ε+β^+) [†a]	Comments
						I(ε+β^+): 1.258% for 3050 *14* from TAGS data (1990AlZH).
(3034[b] *13*)	3014.2?	0.045 *12*	0.14 *4*	6.2	0.18 *5*	av Eβ=908.5 *59*; εK=0.630 *4*; εL=0.0949 *5*; εM+=0.02789 *15* I(ε+β^+): 1.220% for 3021 *14* from TAGS data (1990AlZH).
(3068 *13*)	2980.41	0.2 *1*	0.6 *1*	5.5	0.8 *1*	av Eβ=923.8 *59*; εK=0.622 *4*; εL=0.0936 *5*; εM+=0.02751 *15* I(ε+β^+): 1.187% for 2993 *14* from TAGS data (1990AlZH).
(3084 *19*)	2964	0.33	0.92		1.251[‡]	av Eβ=931.1 *86*; εK=0.618 *5*; εL=0.0930 *8*; εM+=0.02733 *22*
(3112 *19*)	2936	0.36	0.96		1.324[‡]	av Eβ=943.8 *87*; εK=0.611 *5*; εL=0.0919 *8*; εM+=0.02702 *22*
(3141 *19*)	2907	0.43	1.10		1.526[‡]	av Eβ=956.8 *87*; εK=0.604 *5*; εL=0.0908 *8*; εM+=0.02670 *22*
(3165 *13*)	2882.83	0.37 *3*	0.93 *7*	5.4	1.3 *1*	av Eβ=967.7 *59*; εK=0.598 *4*; εL=0.0899 *5*; εM+=0.02643 *15* I(ε+β^+): 1.629% for 2878 *14* from TAGS data (1990AlZH).
(3221 *13*)	2827.34	2.1 *3*	4.8 *6*	4.7 *1*	6.9 *9*	av Eβ=992.8 *59*; εK=0.584 *4*; εL=0.0878 *5*; εM+=0.02581 *15* I(ε+β^+): 1.661% for 2793 *14*; 1.768% for 2822 *14*; and 1.743% for 2850 *14* from TAGS data (1990AlZH) for a total of 5.2%.
(3259 *13*)	2789.18	0.63 *3*	1.4 *1*	5.22 *3*	2.0 *1*	av Eβ=1010.0 *59*; εK=0.575 *4*; εL=0.0864 *5*; εM+=0.02539 *15* I(ε+β^+): 1.562% for 2764 *14* from TAGS data (1990AlZH).
(3319 *13*)	2728.65	0.351 *14*	0.71 *3*	5.5	1.06 *4*	av Eβ=1037.4 *59*; εK=0.560 *4*; εL=0.0841 *5*; εM+=0.02471 *15* I(ε+β^+): 1.144% for 2708 *14*; 1.284% for 2736 *14* from TAGS data (1990AlZH), probably corresponds to feeding to 2728.6 and 2718.5 levels.
(3330[b] *13*)	2718.5?	0.074 *23*	0.15 *5*	6.2	0.22 *7*	av Eβ=1042.0 *59*; εK=0.557 *4*; εL=0.0837 *5*; εM+=0.02460 *15* I(ε+β^+): see comment for feeding to the 2728.6 level.
(3369 *19*)	2679	0.32	0.60		0.920[‡]	av Eβ=1059.9 *87*; εK=0.548 *5*; εL=0.0822 *8*; εM+=0.02416 *22*
(3397 *19*)	2651	0.34	0.61		0.952[‡]	av Eβ=1072.6 *87*; εK=0.541 *5*; εL=0.0812 *8*; εM+=0.02385 *22*
(3441 *13*)	2607.10	0.3 *1*	0.4 *1*	5.8	0.7 *1*	av Eβ=1092.6 *59*; εK=0.530 *4*; εL=0.0795 *5*; εM+=0.02336 *15* I(ε+β^+): 0.950% for 2622 *14* from TAGS data (1990AlZH).
(3454 *19*)	2594	0.34	0.59		0.930[‡]	av Eβ=1098.5 *87*; εK=0.527 *5*; εL=0.0790 *8*; εM+=0.02322 *21*
(3483 *19*)	2565	0.34	0.55		0.894[‡]	av Eβ=1111.7 *87*; εK=0.520 *5*; εL=0.0780 *7*; εM+=0.02290 *21*
(3511 *19*)	2537	0.40	0.64		1.042[‡]	av Eβ=1124.4 *87*; εK=0.513 *5*; εL=0.0769 *7*; εM+=0.02260 *21*
(3561 *13*)	2487.24	0.60 *4*	0.90 *6*	5.5	1.5 *1*	av Eβ=1147.0 *60*; εK=0.501 *4*; εL=0.0751 *5*; εM+=0.02206 *14* I(ε+β^+): 1.077% for 2480 *14*; 0.964% for 2508 *14* from

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^{149}Ho ε decay (21.0 s) 1994Me13,1990AlZH (continued)

ε,β^+ radiations (continued)

E(decay)	E(level)	Iβ^+ [a]	Iε[a]	Log *ft*[&]	I(ε+β^+)[†a]	Comments
						TAGS data (1990AlZH).
(3582 *13*)	2466.24	0.82 *8*	1.2 *1*	5.4 *1*	2.0 *2*	av Eβ=1156.6 *60*; εK=0.496 *4*; εL=0.0743 *5*; εM+=0.02183 *14* I(ε+β^+): 1.135% for 2451 *14* from TAGS data (1990AlZH).
(3639 *13*)	2409.18	0.72 *4*	0.98 *6*	5.5	1.7 *1*	av Eβ=1182.6 *60*; εK=0.482 *3*; εL=0.0723 *5*; εM+=0.02123 *14* I(ε+β^+): 1.112% for 2423 *14* from TAGS data (1990AlZH).
(3645 *13*)	2402.51	0.094 *17*	0.13 *2*	6.4	0.22 *4*	av Eβ=1185.6 *60*; εK=0.481 *3*; εL=0.0720 *5*; εM+=0.02116 *14* I(ε+β^+): 1.047% for 2394 *14* from TAGS data (1990AlZH).
(3690 *13*)	2358.0	0.057 *18*	0.073 *22*	6.6	0.13 *4*	av Eβ=1205.9 *60*; εK=0.470 *3*; εL=0.0704 *5*; εM+=0.02069 *14* I(ε+β^+): 0.863% for 2366 *14* from TAGS data (1990AlZH).
(3727 *13*)	2321.19	0.54 *9*	0.66 *11*	5.7	1.2 *2*	av Eβ=1222.8 *60*; εK=0.462 *3*; εL=0.0691 *5*; εM+=0.02031 *14* I(ε+β^+): 0.850% for 2337 *14* from TAGS data (1990AlZH).
(3736 *13*)	2312.22	0.3 *1*	0.4 *1*	5.9	0.7 *1*	av Eβ=1226.9 *60*; εK=0.460 *3*; εL=0.0688 *5*; εM+=0.02022 *14* I(ε+β^+): 0.613% for 2309 *14* from TAGS data (1990AlZH).
(3756 *13*)	2291.81	0.21 *2*	0.24 *3*	6.1	0.45 *5*	av Eβ=1236.2 *60*; εK=0.455 *3*; εL=0.0681 *5*; εM+=0.02001 *14* I(ε+β^+): 0.504% for 2280 *14* from TAGS data (1990AlZH).
(3796 *19*)	2252	0.16	0.18		0.345[‡]	av Eβ=1254.4 *88*; εK=0.446 *5*; εL=0.0668 *7*; εM+=0.01961 *20*
(3825 *19*)	2223	0.16	0.18		0.343[‡]	av Eβ=1267.6 *88*; εK=0.439 *5*; εL=0.0658 *7*; εM+=0.01932 *19*
(3882 *13*)	2165.86	0.2 *1*	0.2 *1*	6.2	0.4 *1*	av Eβ=1293.8 *60*; εK=0.427 *3*; εL=0.0639 *5*; εM+=0.01875 *13* I(ε+β^+): 0.177% for 2166 *14*; 0.192% for 2195 *14* from TAGS data (1990AlZH).
(3910 *19*)	2138	0.05	0.05		0.102[‡]	av Eβ=1306.6 *88*; εK=0.421 *5*; εL=0.0629 *7*; εM+=0.01848 *19*
(3939 *19*)	2109	0.005	0.005		0.010[‡]	av Eβ=1319.9 *88*; εK=0.414 *5*; εL=0.0620 *7*; εM+=0.01820 *19*
(3967 *19*)	2081	0.011	0.011		0.022[‡]	av Eβ=1332.7 *88*; εK=0.408 *4*; εL=0.0611 *7*; εM+=0.01794 *18*
(3996[b] *19*)	2052?				[#]	I(ε+β^+)=−0.083%.
(4025 *19*)	2023				[‡]	
(4053 *19*)	1995	0.10	0.09		0.193[‡]	av Eβ=1372.2 *88*; εK=0.391 *4*; εL=0.0584 *6*; εM+=0.01714 *18*
(4081 *19*)	1967	0.14	0.12		0.262[‡]	av Eβ=1385.1 *88*; εK=0.385 *4*; εL=0.0575 *6*; εM+=0.01689 *18*
(4110 *19*)	1938	0.16	0.13		0.290[‡]	av Eβ=1398.4 *88*; εK=0.379 *4*; εL=0.0566 *6*; εM+=0.01663 *17*
(4138 *19*)	1910	0.19	0.15		0.341[‡]	av Eβ=1411.3 *88*; εK=0.373 *4*; εL=0.0558 *6*; εM+=0.01638 *17*
(4167 *19*)	1881	0.19	0.14		0.333[‡]	av Eβ=1424.6 *88*; εK=0.368 *4*; εL=0.0549 *6*;

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^{149}Ho ε decay (21.0 s) 1994Me13,1990AlZH (continued)

ϵ,β^+ radiations (continued)

E(decay)	E(level)	$I\beta^+$ [a]	$I\varepsilon$[a]	Log ft[&]	$I(\varepsilon+\beta^+)$[†a]	Comments
						εM+=0.01613 *17*
(4195 *19*)	1853	0.16	0.12		0.275[‡]	av Eβ=1437.5 *88*; εK=0.362 *4*; εL=0.0541 *6*; εM+=0.01589 *17*
(4224 *19*)	1824	0.17	0.12		0.290[‡]	av Eβ=1450.9 *88*; εK=0.357 *4*; εL=0.0533 *6*; εM+=0.01564 *17*
(4253 *19*)	1795	0.17	0.12		0.292[‡]	av Eβ=1464.3 *89*; εK=0.351 *4*; εL=0.0525 *6*; εM+=0.01540 *16*
(4266[b] *13*)	1782.21?	0.11 *2*	0.22 *4*	8.1[1u]	0.33 *6*	av Eβ=1456.9 *58*; εK=0.5456 *25*; εL=0.0833 *4*; εM+=0.02454 *12* I(ε+β⁺): 0.305% for 1767 *14* from TAGS data (1990AlZH). For first-forbidden unique transition, log $f^{1u}t$ should be >8.5.
(4310 *19*)	1738	0.24	0.17		0.411[‡]	av Eβ=1490.6 *89*; εK=0.341 *4*; εL=0.0509 *6*; εM+=0.01494 *16*
(4335 *13*)	1712.80	1.0 *1*	0.68 *4*	5.8	1.7 *1*	av Eβ=1502.2 *60*; εK=0.3363 *24*; εL=0.0502 *4*; εM+=0.01474 *11* I(ε+β⁺): 0.622% for 1710 *14* from TAGS data (1990AlZH).
(4344 *13*)	1703.73	0.60 *12*	0.40 *8*	6.0	1.0 *2*	av Eβ=1506.4 *60*; εK=0.3347 *24*; εL=0.0500 *4*; εM+=0.01466 *11* I(ε+β⁺): 0.532% for 1681 *14* from TAGS data (1990AlZH).
(4385 *13*)	1663.45	1.3 *1*	0.86 *8*	5.68 *4*	2.2 *2*	av Eβ=1525.0 *60*; εK=0.3275 *23*; εL=0.0489 *4*; εM+=0.01435 *11* I(ε+β⁺): 0.702% for 1653 *14* from TAGS data (1990AlZH).
(4464 *13*)	1583.60	1.3 *1*	0.75 *8*	5.8 *1*	2.0 *2*	av Eβ=1561.9 *61*; εK=0.3138 *22*; εL=0.0468 *4*; εM+=0.01374 *10* I(ε+β⁺): 0.728% for 1596 *14*; 0.844% for 1568 *14*; and 0.697% for 1624 *14* or a total of 2.3% from TAGS data (1990AlZH).
(4509 *19*)	1539	0.47	0.27		0.744[‡]	av Eβ=1582.6 *89*; εK=0.306 *4*; εL=0.0457 *5*; εM+=0.01341 *14*
(4537 *19*)	1511	0.38	0.21		0.593[‡]	av Eβ=1595.5 *89*; εK=0.302 *4*; εL=0.0450 *5*; εM+=0.01321 *14*
(4566 *19*)	1482	0.14	0.08		0.222[‡]	av Eβ=1609.0 *89*; εK=0.297 *3*; εL=0.0443 *5*; εM+=0.01301 *14*
(4594 *19*)	1454	0.027	0.014		0.041[‡]	av Eβ=1621.9 *89*; εK=0.293 *3*; εL=0.0437 *5*; εM+=0.01281 *14*
(4623 *19*)	1425	0.010	0.006		0.016[‡]	av Eβ=1635.4 *89*; εK=0.288 *3*; εL=0.0430 *5*; εM+=0.01261 *13*
(4651[b] *19*)	1397?				[#]	I(ε+β⁺)=−0.162%.
(4680[b] *19*)	1368?				[#]	I(ε+β⁺)=−0.177%.
(4708[b] *19*)	1340?				[#]	I(ε+β⁺)=−0.123%.
(4737[b] *19*)	1311?				[#]	I(ε+β⁺)=−0.068%.
(4765 *19*)	1283	0.16	0.07		0.233[‡]	av Eβ=1701.3 *89*; εK=0.267 *3*; εL=0.0398 *5*; εM+=0.01168 *12*
(4794[b] *19*)	1254?				[#]	I(ε+β⁺)=−0.016%.
(4822[b] *19*)	1226?				[#]	I(ε+β⁺)=−0.261%.
(4851 *19*)	1197	0.22	0.10		0.316[‡]	av Eβ=1741.3 *89*; εK=0.255 *3*; εL=0.0380 *4*; εM+=0.01116 *12*

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^{149}Ho ε decay (21.0 s) 1994Me13,1990AlZH (continued)

ϵ,β^+ radiations (continued)

E(decay)	E(level)	Iβ$^+$ [a]	Iε[a]	Log ft[&]	I(ε+β$^+$)[†a]	Comments
(4957 *13*)	1090.74	24 *4*	9.5 *14*	4.8 *1*	33 *5*	av Eβ=1790.8 *61*; εK=0.2413 *17*; εL=0.03593 *25*; εM+=0.01054 *8* I(ε+β$^+$): 1.885% for 1169 *14*; 4.208% for 1140 *14*; 6.949% for 1112 *14*; 8.571% for 1083 *14*; 7.120% for 1055 *14*; 4.633% for 1026 *14*; 1.584% for 998 *14*; or a total of 35% in a peak between 1000-1170 keV, centered around 1085 keV from TAGS data (Table 4 and Fig. 9) in 1990AlZH, likely corresponds to I(ε+β$^+$) feeding to primarily the 1091 and a minor fraction to 1073 level. 1994Me13, in their Fig. 7b is compared their deduced feeding of 59% *2* from high-resolution γ-ray data in 1994Me13 to that in Fig. 9 of 1990AlZH in TAGS data, which showed that I(ε+β$^+$) feeding to the 1091 level from high-resolution γ-ray data was about half of that in the TAGS data in 1990AlZH. Based on TAGS data, evaluators assign 33% *5* feeding to the 1091 level, where uncertainty of 15% is arbitrary. For the 1073 level, I(ε+β$^+$) feeding is from high-resolution γ-ray data.
(4975 *13*)	1073.31	1.1 *3*	0.46 *11*	6.1	1.6 *4*	av Eβ=1798.9 *61*; εK=0.2391 *17*; εL=0.03559 *25*; εM+=0.01044 *8* I(ε+β$^+$): see comment for I(ε+β$^+$) feeding of 1090.7 level from TAGS data in 1990AlZH and comparison with high-resolution data in 1994Me13.
(5079[b] *19*)	969?	0.39	0.14		0.534[@]	av Eβ=1847.6 *90*; εK=0.2263 *23*; εL=0.0337 *4*; εM+=0.00988 *10*
(5107[b] *19*)	941?	0.39	0.14		0.532[@]	av Eβ=1860.7 *90*; εK=0.2230 *23*; εL=0.0332 *4*; εM+=0.00974 *10*
(5136[b] *19*)	912?	0.27	0.09		0.363[@]	av Eβ=1874.2 *90*; εK=0.2197 *22*; εL=0.0327 *4*; εM+=0.00959 *10*
(5164[b] *19*)	884?	0.25	0.09		0.340[@]	av Eβ=1887.3 *90*; εK=0.2165 *22*; εL=0.0322 *4*; εM+=0.00945 *10*
(5193[b] *19*)	855?	0.16	0.05		0.208[@]	av Eβ=1900.8 *90*; εK=0.2132 *22*; εL=0.0317 *4*; εM+=0.00931 *10*

† Based on γ-intensity balance from high-resolution data in 1994Me13, when γ-ray data are available, and TAGS data in 1990AlZH, when no γ-ray data are available. Exception is for 1090.7 level, where comparison between the two sets of data is used and I(ε+β$^+$) feedings is assigned from TAGS data, as the value from these data is about half as compared to that from high-resolution γ-ray data. From high-resolution γ-ray data, I(ε+β$^+$) feedings of ≥2% are considered by evaluators as fairly reliable, when compared to corresponding values from TAGS data. Weaker feedings (<2%) are considered as upper limits as these can be affected by missing γ rays from higher levels. Summed I(ε+β$^+$) feeding for all the levels (including pseudolevels) listed here is 100.8%, whereas above the 3490 level (highest known level from high-resolution γ-ray data), total feeding from TAGS data adds to 7.3%.

‡ Intensity per 100 decays from TAGS data in 1990AlZH, with a bin width of 28.5 keV. In Table 4 of 1990AlZH, listed intensities are per 100,000 decays of ^{149}Ho.

Negative (non-physical) intensity from TAGS data in 1990AlZH.

@ No excited states in ^{149}Dy have been reported below 1034 keV in any of the decays or reactions, thus this feeding to a pseudolevel is treated by evaluators as questionable. Total I(ε+β$^+$) feeding from TAGS data in 1990AlZH adds to 2.0% in the excitation range of 840-980 keV.

& For I(ε+β$^+$) feedings <2%, values are treated as lower limits as the decay scheme from high-resolution γ-ray data is incomplete.

a Absolute intensity per 100 decays.

b Existence of this branch is questionable.

γ(^{149}Dy)

Iγ normalization: 1994Me12 provide photon intensities per 1000 decays, with statistical uncertainties as well as those from spectral complexity. Evaluators divide Iγ values in 1994Me12 by a factor of 10. Methodology of measuring absolute γ intensities is not described in 1994Me13.

E_γ[†]	I_γ[†&]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	δ[@]	α[a]	Comments
462.1 *3*	0.23 *6*	2165.86	(9/2,11/2,13/2)$^+$	1703.73	(11/2)$^+$	M1(+E2)	<1.0	0.032 *4*	α(N)=0.000204 *18*; α(O)=2.95×10^{-5} *30*; α(P)=1.62×10^{-6} *27* α(K)=0.027 *4*; α(L)=0.0040 *4*; α(M)=0.00088 *8* Mult.,δ: from α(K)exp=0.029 *6*.
511 *2*	0.52[‡] *15*	1583.60	(11/2$^-$)	1073.31	(13/2)$^+$				
590.1 *5*	0.45[‡] *15*	1663.45	(9/2$^+$)	1073.31	(13/2)$^+$				
613.0 *2*	0.19 *4*	1703.73	(11/2)$^+$	1090.74	(9/2$^-$)				
630.3 *5*	1.04 *15*	1703.73	(11/2)$^+$	1073.31	(13/2)$^+$	M1(+E2)	<2.5	0.0131 *35*	α(K)=0.0110 *30*; α(L)=0.00163 *34*; α(M)=0.00036 *7* α(N)=8.3×10^{-5} *17*; α(O)=1.20×10^{-5} *26*; α(P)=6.6×10^{-7} *20* Mult.,δ: from α(K)exp=0.011 *3*.
694.5 *6*	0.13[‡] *4*	2358.0	(9/2$^-$,11/2$^-$)	1663.45	(9/2$^+$)				
1073.3 *1*	6.37 *7*	1073.31	(13/2)$^+$	0.0	7/2$^-$	E3		0.00557 *8*	α(K)=0.00455 *6*; α(L)=0.000788 *11*; α(M)=0.0001763 *25* α(N)=4.06×10^{-5} *6*; α(O)=5.76×10^{-6} *8*; α(P)=2.78×10^{-7} *4* E_γ: weighted average of 1073.1 *2* (1994Me13) and 1073.3 *1* (1979To01). Other: 1073.2 (1982Ba75). I_γ: others: I(1073γ)/I(1091γ)=13 *1*/100 (1979To01), 15/100 (1982Ba75).
1090.4 *3*	74.4 *15*	1090.74	(9/2$^-$)	0.0	7/2$^-$				E_γ: weighted average of 1090.7 *2* (1994Me13) and 1090.1 *1* (1979To01). Other: 1090.8 (1982Ba75). I_γ: quoted uncertainty of ≈0.2% in 1994Me13 is unrealistically low; it has been increased by a factor of 10 by the evaluators.
1092.6 *4*	0.2[‡] *1*	2165.86	(9/2,11/2,13/2)$^+$	1073.31	(13/2)$^+$				
1114.8 *3*	0.32 *5*	2827.34	(11/2$^-$)	1712.80	(9/2$^-$)				
1125.7 *2*	1.15 *5*	2789.18	(9/2$^-$,11/2$^-$)	1663.45	(9/2$^+$)				
1218.5 *2*	0.45 *5*	2291.81	(11/2$^-$,13/2$^-$)	1073.31	(13/2)$^+$				
1230.4 *4*	0.26 *11*	2321.19	(9/2$^-$,11/2$^-$)	1090.74	(9/2$^-$)				
1318.5 *3*	1.30 *5*	2409.18	(9/2$^-$,11/2$^-$)	1090.74	(9/2$^-$)				
1329.2 *3*	0.22 *4*	2402.51	(11/2$^-$,13/2$^-$)	1073.31	(13/2)$^+$				
1375.2 *3*	1.76 *10*	2466.24	(9/2$^-$,11/2$^-$)	1090.74	(9/2$^-$)				
1396.5 *2*	0.61 *7*	2487.24	(9/2$^-$,11/2$^-$)	1090.74	(9/2$^-$)				
1415.6 *3*	0.53 *5*	3079.13	(11/2$^-$)	1663.45	(9/2$^+$)				
1495.5 *2*	1.65 *4*	3079.13	(11/2$^-$)	1583.60	(11/2$^-$)				
1534.0 *5*	0.15 *5*	2607.10	(11/2$^-$)	1073.31	(13/2)$^+$				
1545.9 *2*	0.90 *7*	3129.52	(11/2$^-$)	1583.60	(11/2$^-$)				

γ(^{149}Dy) (continued)

E_γ[†]	I_γ[†&]	E_i(level)	J_i^π	E_f	J_f^π	Comments
1583.6 2	4.48 7	1583.60	(11/2⁻)	0.0	7/2⁻	Other: Eγ=1583.6 2, I(1583.6γ)/I(1091.0γ)=9 2 /100 (1979To01).
1637.9 3	1.06 4	2728.65	(9/2⁻,11/2⁻,13/2⁻)	1090.74	(9/2⁻)	
1663.4 2	3.53 7	1663.45	(9/2⁺)	0.0	7/2⁻	
1698.5 4	0.86 8	2789.18	(9/2⁻,11/2⁻)	1090.74	(9/2⁻)	
1712.9 2	1.97 4	1712.80	(9/2⁻)	0.0	7/2⁻	
1729.0 3	0.41 4	3312.52	(9/2⁻,11/2⁻,13/2⁻)	1583.60	(11/2⁻)	
1736.6 5	3.8[‡] 8	2827.34	(11/2⁻)	1090.74	(9/2⁻)	E_γ: 1736.8 in Fig. 4 of 1994Me13.
1753.4[#] 4	0.60[‡] 15	2827.34	(11/2⁻)	1073.31	(13/2)⁺	
1782.2[b] 3	0.33 6	1782.21?	(7/2⁺)	0.0	7/2⁻	
1791.9 3	0.46 5	2882.83	(11/2⁻,13/2⁻)	1090.74	(9/2⁻)	
1809.7 3	0.79 11	2882.83	(11/2⁻,13/2⁻)	1073.31	(13/2)⁺	
1889.7 3	0.34 6	2980.41	(9/2⁻,11/2⁻)	1090.74	(9/2⁻)	
1958.8 4	0.47 7	3049.6	(9/2⁻,11/2⁻,13/2⁻)	1090.74	(9/2⁻)	
1988.4 2	1.97 8	3079.13	(11/2⁻)	1090.74	(9/2⁻)	
2006.0 5	0.23 9	3079.13	(11/2⁻)	1073.31	(13/2)⁺	
2056.2 5	0.19 11	3129.52	(11/2⁻)	1073.31	(13/2)⁺	
2089.3 2	0.87 7	3180.05	(9/2⁻,11/2⁻,13/2⁻)	1090.74	(9/2⁻)	
2111.8 3	0.26 5	3202.55	(9/2⁻,11/2⁻)	1090.74	(9/2⁻)	
2221.4 6	0.40 16	3312.52	(9/2⁻,11/2⁻,13/2⁻)	1090.74	(9/2⁻)	
2257.9 3	0.46 7	3348.66	(9/2⁻,11/2⁻,13/2⁻)	1090.74	(9/2⁻)	
2312.2 3	0.70 7	2312.22	(9/2⁻,11/2⁻)	0.0	7/2⁻	
2321.2 3	0.97 11	2321.19	(9/2⁻,11/2⁻)	0.0	7/2⁻	
2399.7 3	0.39 7	3490.42	(9/2⁻,11/2⁻)	1090.74	(9/2⁻)	
2409.1 3	0.39 8	2409.18	(9/2⁻,11/2⁻)	0.0	7/2⁻	
2467.4[#b] 6	0.26 11	2466.24	(9/2⁻,11/2⁻)	0.0	7/2⁻	
2487.2 3	0.87 6	2487.24	(9/2⁻,11/2⁻)	0.0	7/2⁻	
2607.0 3	0.53 5	2607.10	(11/2⁻)	0.0	7/2⁻	
2718.5[b] 4	0.22 7	2718.5?	(9/2⁻,11/2⁻)	0.0	7/2⁻	
2827.4 3	2.20 8	2827.34	(11/2⁻)	0.0	7/2⁻	
2980.3 4	0.45 8	2980.41	(9/2⁻,11/2⁻)	0.0	7/2⁻	
3014.2[b] 4	0.18 5	3014.2?	(9/2⁻,11/2⁻)	0.0	7/2⁻	
3079.1 3	0.62 6	3079.13	(11/2⁻)	0.0	7/2⁻	
3129.5 4	0.25 5	3129.52	(11/2⁻)	0.0	7/2⁻	
3202.5 6	0.15 6	3202.55	(9/2⁻,11/2⁻)	0.0	7/2⁻	
3362.8 4	0.44 7	3362.8	(9/2⁻,11/2⁻)	0.0	7/2⁻	
3490.3 4	0.31 6	3490.42	(9/2⁻,11/2⁻)	0.0	7/2⁻	

† From 1994Me13, unless otherwise noted.
‡ Estimated from $\gamma\gamma$-coin spectra (1994Me13).

$^{149}_{66}$Dy$_{83}$-11

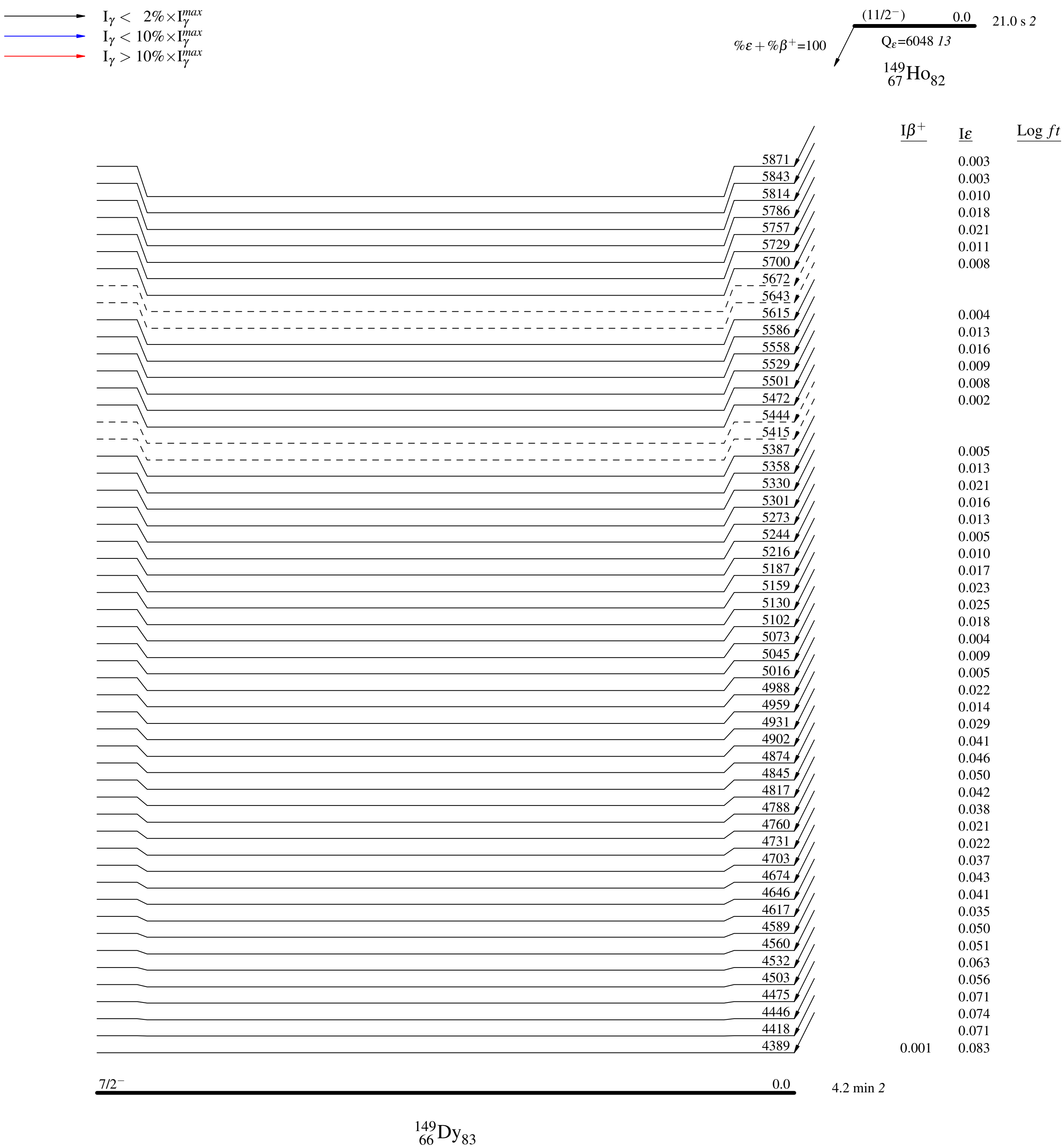
γ(^{149}Dy) (continued)

[#] Poor fit in level scheme, deviation is ≈0.8 keV.
[@] From ce data in 1994Me13, given under comments. The same values are given in the Adopted Gammas.
[&] Absolute intensity per 100 decays.
[a] 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.
[b] Placement of transition in the level scheme is uncertain.

^{149}Ho ε decay (21.0 s) 1994Me13,1990AlZH

Decay Scheme

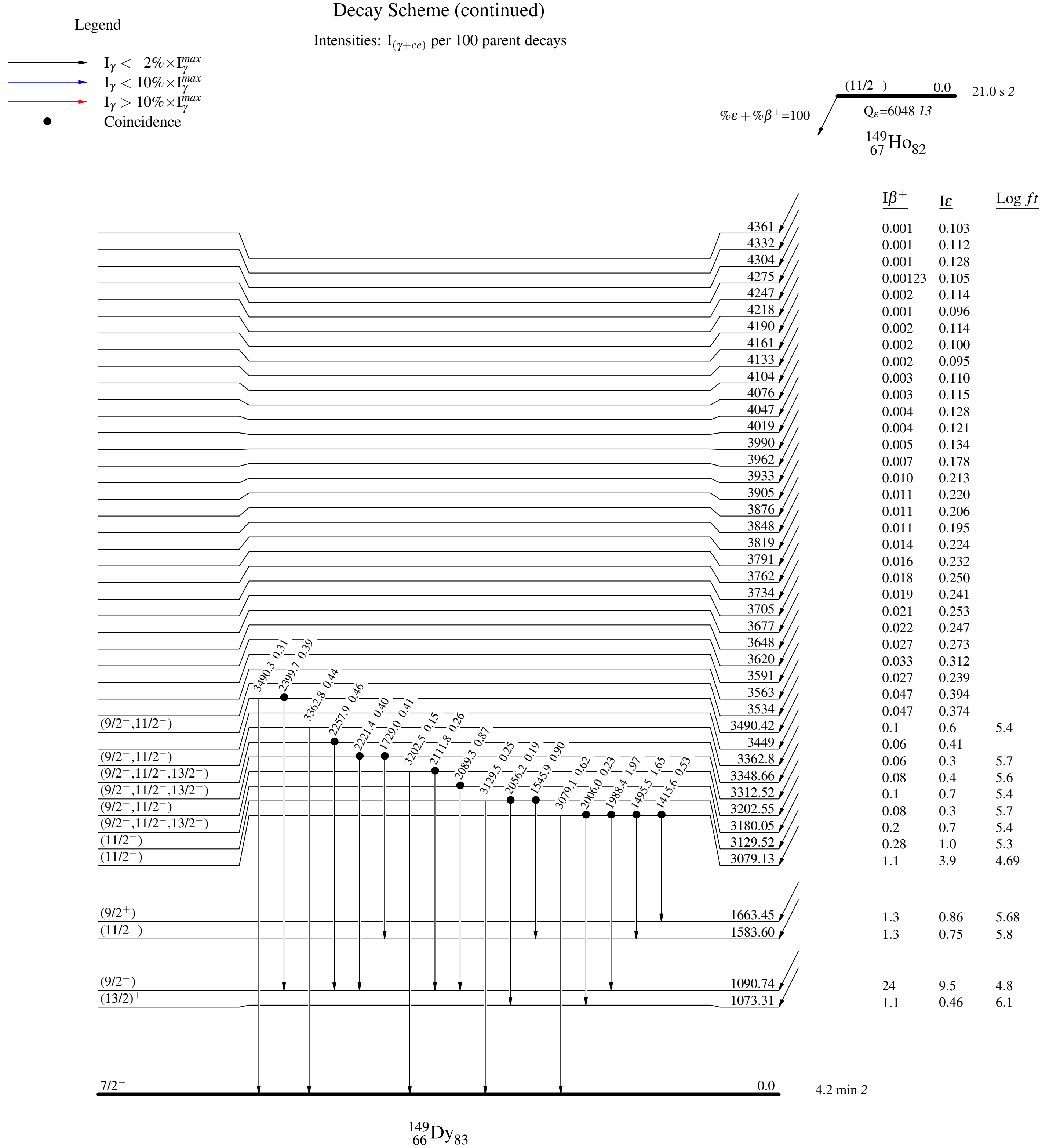
Intensities: $I_{(\gamma+ce)}$ per 100 parent decays



^{149}Ho ε decay (21.0 s) 1994Me13,1990AlZH

Decay Scheme (continued)

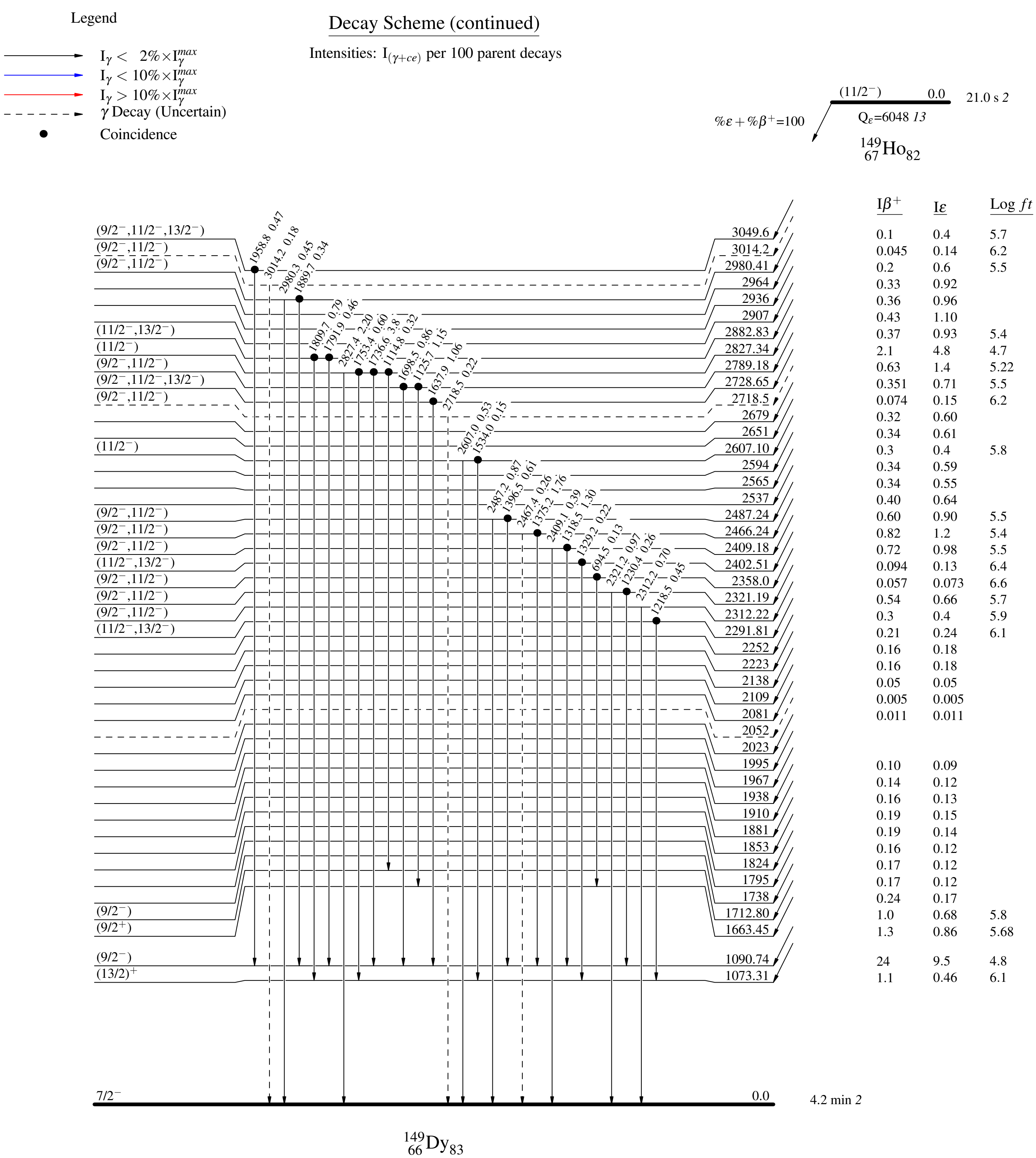
Intensities: $I_{(\gamma+ce)}$ per 100 parent decays



^{149}Ho ε decay (21.0 s) 1994Me13,1990AlZH

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays



^{149}Ho ε decay (21.0 s) 1994Me13,1990AlZH

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays