^{130}Te(^{36}S,α4nγ) 2005Pi21

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 141, 1 (2017)	1-Feb-2017

E=170 MeV. Measured Eγ, Iγ, $\gamma\gamma$ using Euroball III array of 14 seven-element 'Clusters', 26 four-element 'Clovers' and 30 single- crystal Ge detectors, all detectors were Compton-suppressed. The g.s. band and two negative-parity side bands extended to higher spins.

According to 2005Pi21 the production of ^{158}Dy channel was 1% of the total cross section (the experiment being designed for the study of other nuclei) reason for which presumably, although they extended the g.s. band and two negative-parity side bands to higher spins, they did not report most of the inter-band linking transitions in the low energy part of the level scheme and three other bands that were previously reported by 2003Ha45.

^{158}Dy Levels

All three bands experience crossings due to AB and BC ($i_{13/2}$ neutrons) and A_pB_p ($h_{11/2}$ protons), in that order, at higher spins and excitation energies.

E(level)	J$^\pi$†	E(level)	J$^\pi$†	E(level)	J$^\pi$†	E(level)	J$^\pi$†
0‡	0$^+$	3370@	15$^-$	6545@	25$^-$	10403#	34$^-$
99‡	2$^+$	3703#	16$^-$	6617‡	26$^+$	10915@	35$^-$
317‡	4$^+$	3781‡	18$^+$	6929#	26$^-$	11337‡	36$^+$
638‡	6$^+$	3905@	17$^-$	7325@	27$^-$	11396#	36$^-$
1045‡	8$^+$	4247#	18$^-$	7462‡	28$^+$	11935@	37$^-$
1521‡	10$^+$	4408‡	20$^+$	7725#	28$^-$	12422‡	38$^+$
2050‡	12$^+$	4492@	19$^-$	8152@	29$^-$	12440#	38$^-$
2453@	11$^-$	4843#	20$^-$	8360‡	30$^+$	13006@	39$^-$
2479#	10$^-$	5087‡	22$^+$	8570#	30$^-$	13539#	40$^-$
2613‡	14$^+$	5129@	21$^-$	9025@	31$^-$	13550‡	40$^+$
2810#	12$^-$	5488#	22$^-$	9305‡	32$^+$	14137@	41$^-$
2888@	13$^-$	5814@	23$^-$	9463#	32$^-$	14724‡	42$^+$
3191‡	16$^+$	5824‡	24$^+$	9946@	33$^-$	15333?@	(43$^-$)
3221#	14$^-$	6183#	24$^-$	10300‡	34$^+$	15946?‡	(44$^+$)

† Quoted by 2005Pi21 from 2003Ha45 (can differ from J^π values in Adopted Levels, Gammas dataset).
‡ Band(A): g.s. band.
# Band(B): 2-quasiparticle band, α=0.
@ Band(b): 2-quasiparticle band, α=1.

γ(^{158}Dy)

E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
99	99	2$^+$	0	0$^+$	482	3370	15$^-$	2888	13$^-$	590	3781	18$^+$	3191	16$^+$
218	317	4$^+$	99	2$^+$	482	3703	16$^-$	3221	14$^-$	596	4843	20$^-$	4247	18$^-$
321	638	6$^+$	317	4$^+$	529	2050	12$^+$	1521	10$^+$	627	4408	20$^+$	3781	18$^+$
331	2810	12$^-$	2479	10$^-$	535	3905	17$^-$	3370	15$^-$	637	5129	21$^-$	4492	19$^-$
407	1045	8$^+$	638	6$^+$	544	4247	18$^-$	3703	16$^-$	645	5488	22$^-$	4843	20$^-$
411	3221	14$^-$	2810	12$^-$	563	2613	14$^+$	2050	12$^+$	679	5087	22$^+$	4408	20$^+$
435	2888	13$^-$	2453	11$^-$	578	3191	16$^+$	2613	14$^+$	685	5814	23$^-$	5129	21$^-$
476	1521	10$^+$	1045	8$^+$	587	4492	19$^-$	3905	17$^-$	695	6183	24$^-$	5488	22$^-$

Continued on next page (footnotes at end of table)

^{130}Te(^{36}S,α4nγ) 2005Pi21 (continued)

$\gamma(^{158}Dy)$ (continued)

E_γ	E_i(level)	J_i^π	E_f	J_f^π	E_γ	E_i(level)	J_i^π	E_f	J_f^π
731	6545	25^-	5814	23^-	945	9305	32^+	8360	30^+
737	5824	24^+	5087	22^+	958	2479	10^-	1521	10^+
746	6929	26^-	6183	24^-	969	10915	35^-	9946	33^-
760	2810	12^-	2050	12^+	993	11396	36^-	10403	34^-
780	7325	27^-	6545	25^-	995	10300	34^+	9305	32^+
793	6617	26^+	5824	24^+	1020	11935	37^-	10915	35^-
796	7725	28^-	6929	26^-	1037	11337	36^+	10300	34^+
827	8152	29^-	7325	27^-	1044	12440	38^-	11396	36^-
838	2888	13^-	2050	12^+	1071	13006	39^-	11935	37^-
845	7462	28^+	6617	26^+	1085	12422	38^+	11337	36^+
845	8570	30^-	7725	28^-	1099	13539	40^-	12440	38^-
873	9025	31^-	8152	29^-	1128	13550	40^+	12422	38^+
893	9463	32^-	8570	30^-	1131	14137	41^-	13006	39^-
898	8360	30^+	7462	28^+	1174	14724	42^+	13550	40^+
921	9946	33^-	9025	31^-	1196†	15333?	(43^-)	14137	41^-
932	2453	11^-	1521	10^+	1222†	15946?	(44^+)	14724	42^+
940	10403	34^-	9463	32^-					

† Placement of transition in the level scheme is uncertain.

Legend

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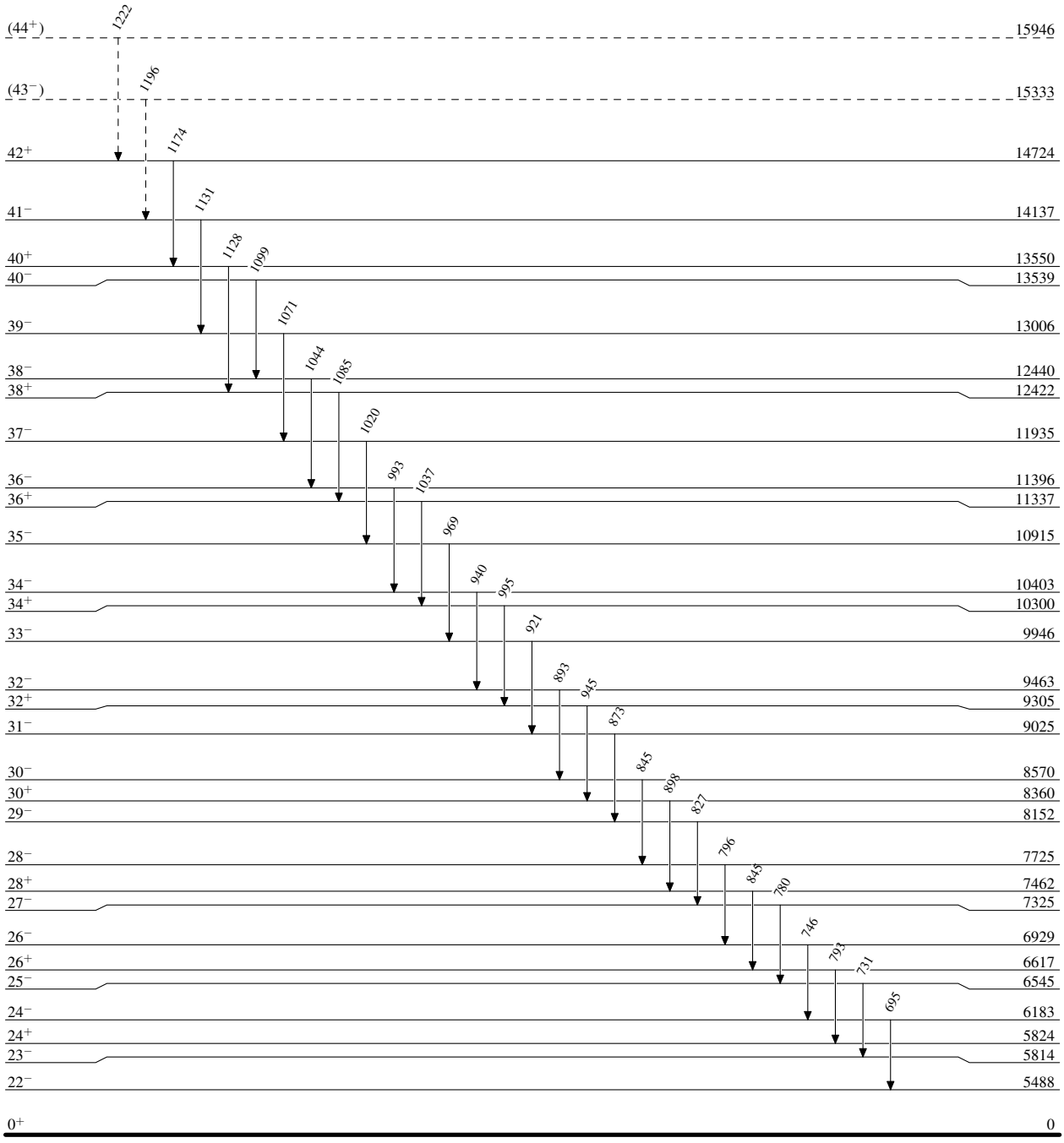
Level Scheme

γ Decay (Uncertain)



$^{158}_{66}Dy_{92}$

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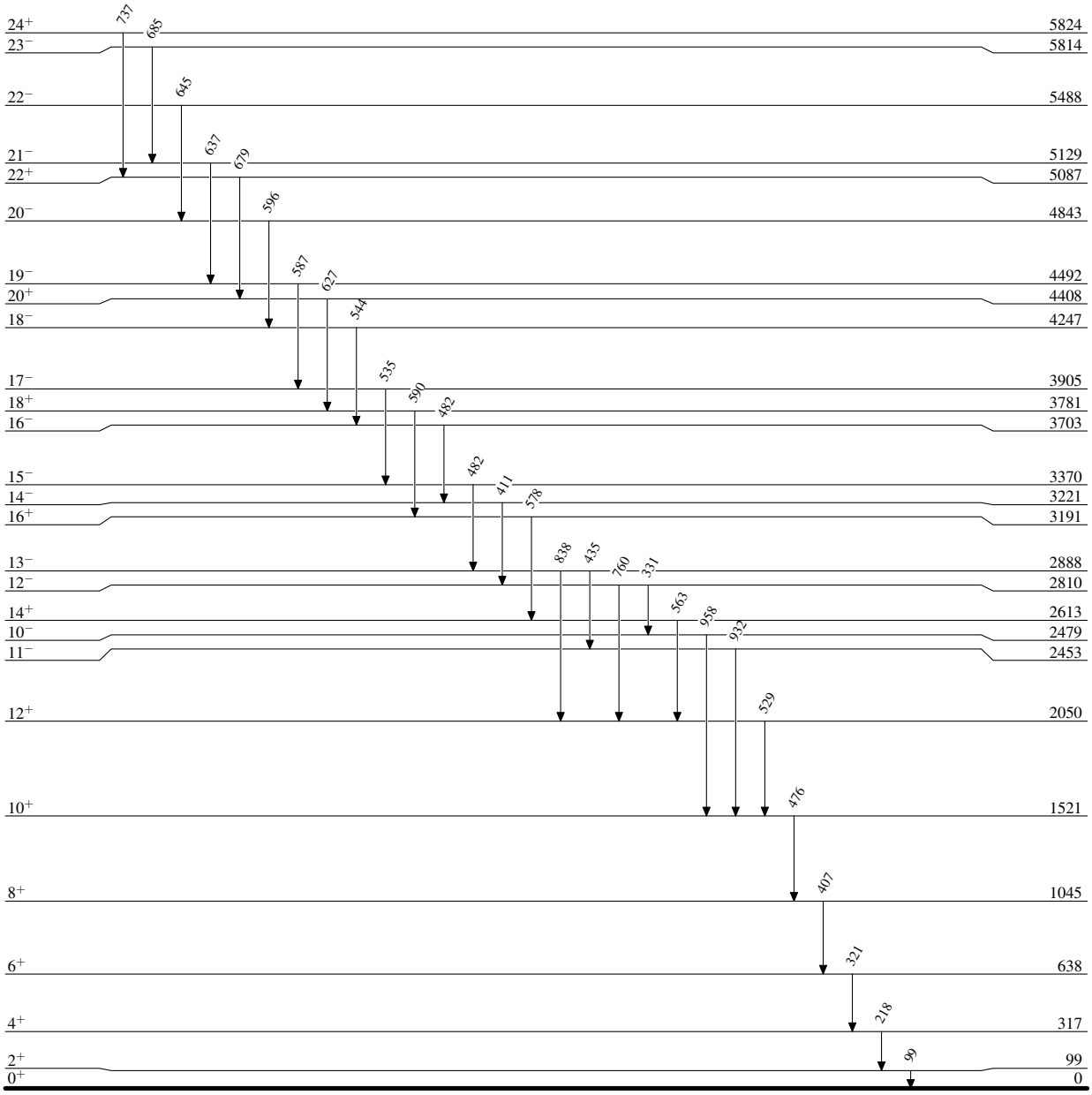
Level Scheme (continued)



$^{158}_{66}Dy_{92}$

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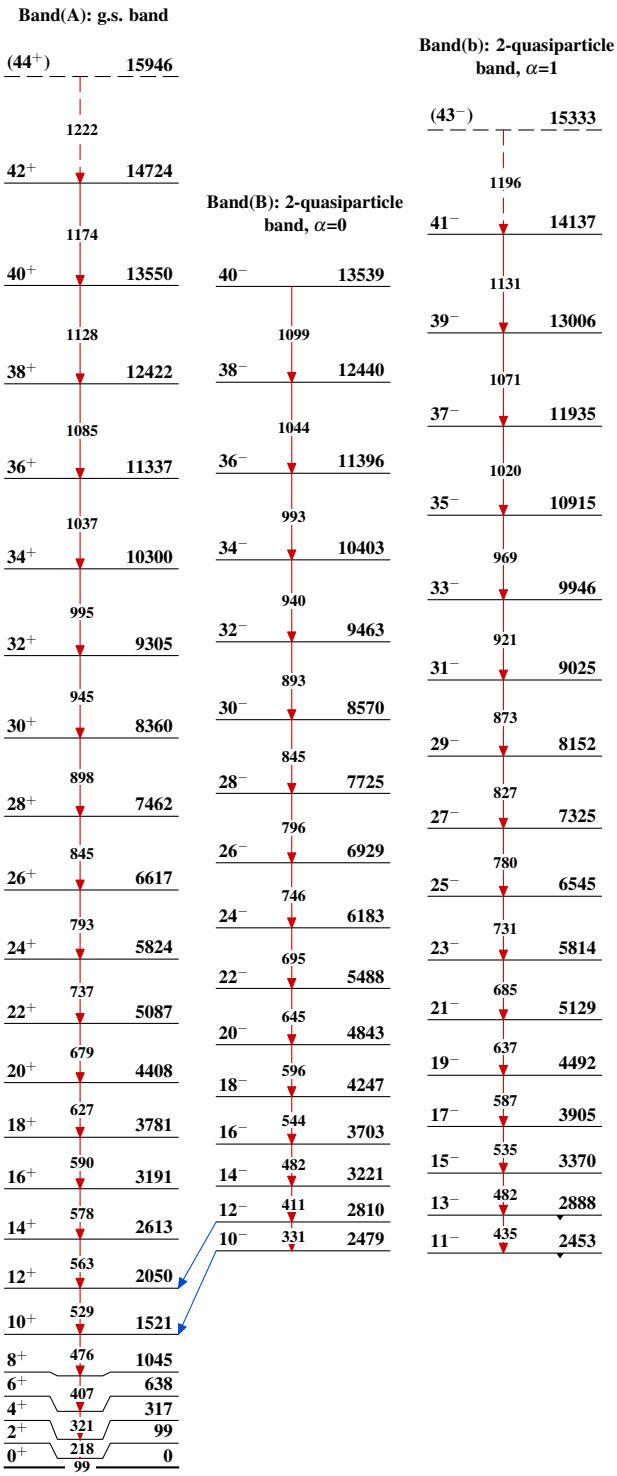

$^{158}_{66}Dy_{92}$