

¹³⁰Te(²⁷Al,α5nγ) **2001KI03**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 117, 1 (2014)	1-Oct-2013

2001KI03: E=155 MeV, measured Eγ and γγ using GAMMASPHERE Ge detector array in conjunction with Microball, a 4π CsI(Tl) charged particle detector array.

¹⁴⁸Eu Levels

E(level) [†]	J ^π [‡]	E(level) [†]	J ^π [‡]	E(level) [†]	J ^π [‡]	E(level) [†]	J ^π [‡]
0.0	5 ⁻	2545.8 ^{&} 5	14 ⁻	5518.6 ^a 8	22 ⁻	7852.9 10	(29)
232.9 3	6 ⁻	2974.9 [@] 6	15 ⁺	5793.5 ^a 8	23 ⁻	8170.9 ^b 10	
708.7 [@] 3	7 ⁺	3047.2 ^d 6	15 ⁻	6099.8 ^a 8	24 ⁻	8517.9 ^c 10	
720.7 [@] 3	9 ⁺	3205.4 ^{&} 6	16 ⁻	6435.0 ^a 8	25 ⁻	8632.5 ^b 10	(29)
1413.1 [@] 5	11 ⁺	3653.1 ^{&} 6	18 ⁻	6702.8 ^b 9	26 ⁻	9245.6 ^b 10	(31)
1669.9 ^d 5	11 ⁻	4008.1 7	19 ⁻	7028.3 ^b 9	27 ⁽⁻⁾ #	9623.6 ^c 11	
1841.1 ^{&} 5	12 ⁻	4086.9 ^{&} 7	20 ⁻	7497.4 ^b 9	(27)	10480.0 ^c 11	
2140.6 [@] 5	13 ⁺	5301.6 ^a 7	21 ⁻	7526.8 ^c 10	28 ⁽⁻⁾ #	11088.1 ^c 12	
2351.1 ^d 6	13 ⁻	5389.7 ^{&} 7	22 ⁻	7590.8 ^b 10	28 ⁽⁻⁾ #		

[†] From least-squares fit to Eγ's, assuming Δ(Eγ)=0.3 keV.

[‡] Except whether noted otherwise, all J^π values are quoted from 1995Jo04, In ¹³⁹La(¹³C,4nγ).

From DCO analysis (2001KI03).

@ Band(A): Sequence based on 7⁺.

& Band(B): Sequence based on 12⁻.

^a Band(C): Sequence based on 21⁻.

^b Band(D): Sequence based on 26⁻.

^c Band(E): Sequence based on 28⁽⁻⁾.

^d Band(F): Sequence based on 11⁻.

γ(¹⁴⁸Eu)

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
12.0 [†] 4	720.7	9 ⁺	708.7	7 ⁺	475.6 [†] 1	708.7	7 ⁺	232.9	6 ⁻
158.2	3205.4	16 ⁻	3047.2	15 ⁻	498.5 [‡]	7526.8	28 ⁽⁻⁾	7028.3	27 ⁽⁻⁾
217.1	5518.6	22 ⁻	5301.6	21 ⁻	562.5 [‡]	7590.8	28 ⁽⁻⁾	7028.3	27 ⁽⁻⁾
230.5	3205.4	16 ⁻	2974.9	15 ⁺	580.2	8170.9		7590.8	28 ⁽⁻⁾
232.8 [†] 1	232.9	6 ⁻	0.0	5 ⁻	608.1	11088.1		10480.0	
256.8	1669.9	11 ⁻	1413.1	11 ⁺	613.0	9245.6	(31)	8632.5	(29)
267.8	6702.8	26 ⁻	6435.0	25 ⁻	659.6	3205.4	16 ⁻	2545.8	14 ⁻
275.0	5793.5	23 ⁻	5518.6	22 ⁻	681.2	2351.1	13 ⁻	1669.9	11 ⁻
299.5	2140.6	13 ⁺	1841.1	12 ⁻	692.4	1413.1	11 ⁺	720.7	9 ⁺
306.4	6099.8	24 ⁻	5793.5	23 ⁻	696.2	3047.2	15 ⁻	2351.1	13 ⁻
325.5 [‡]	7028.3	27 ⁽⁻⁾	6702.8	26 ⁻	704.7	2545.8	14 ⁻	1841.1	12 ⁻
335.2	6435.0	25 ⁻	6099.8	24 ⁻	710.0	6099.8	24 ⁻	5389.7	22 ⁻
355.1	4008.1	19 ⁻	3653.1	18 ⁻	727.5	2140.6	13 ⁺	1413.1	11 ⁺
405.1	2545.8	14 ⁻	2140.6	13 ⁺	794.5	7497.4	(27)	6702.8	26 ⁻
428.0	1841.1	12 ⁻	1413.1	11 ⁺	824.6	7852.9	(29)	7028.3	27 ⁽⁻⁾
433.7	4086.9	20 ⁻	3653.1	18 ⁻	834.3	2974.9	15 ⁺	2140.6	13 ⁺
447.7	3653.1	18 ⁻	3205.4	16 ⁻	856.4	10480.0		9623.6	

Continued on next page (footnotes at end of table)

 $^{130}\text{Te}(^{27}\text{Al},\alpha 5n\gamma)$ **2001K103 (continued)**

 $\gamma(^{148}\text{Eu})$ (continued)

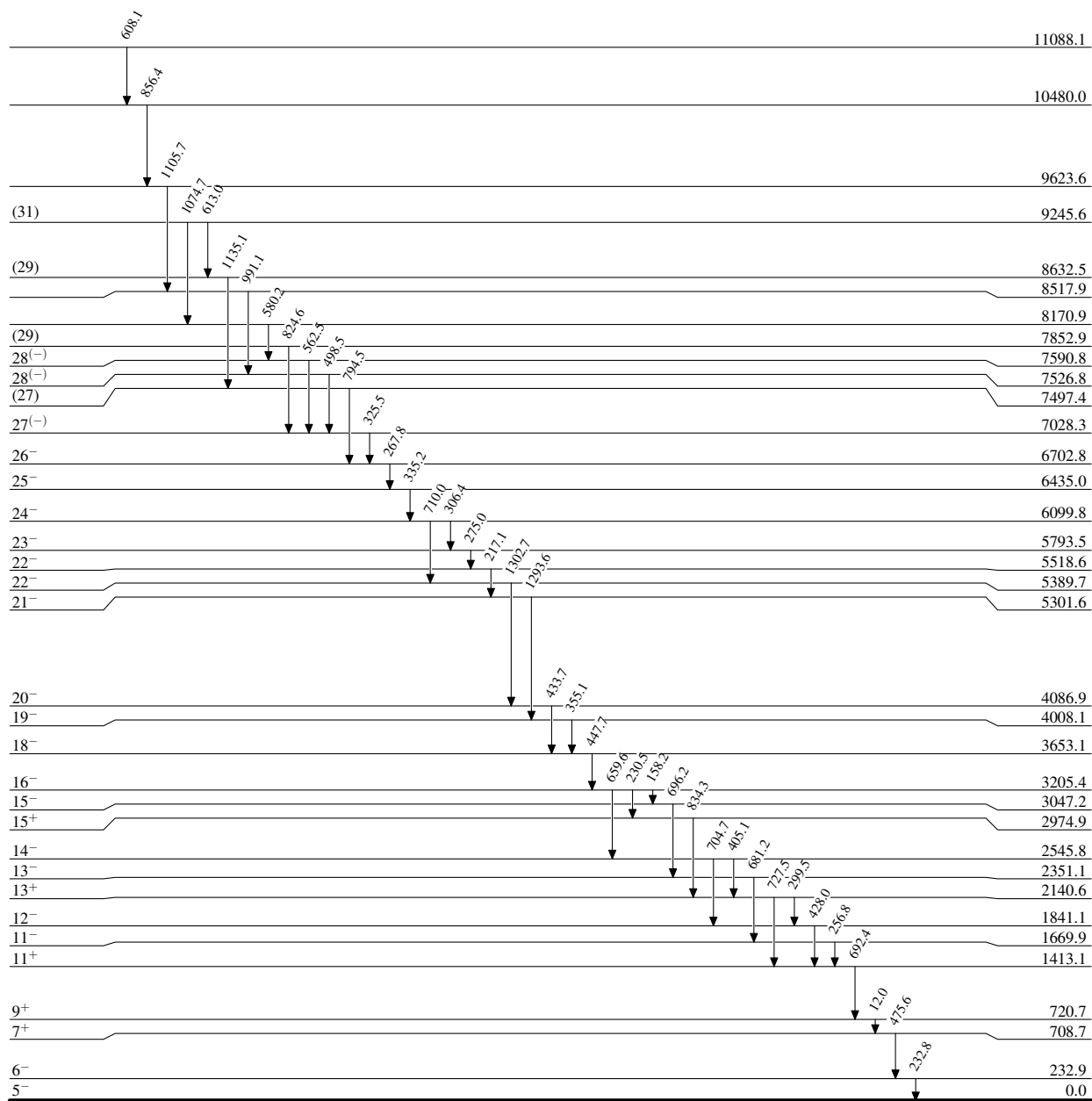
<u>E_γ</u>	<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>
991.1	8517.9		7526.8	28 ⁽⁻⁾
1074.7	9245.6	(31)	8170.9	
1105.7	9623.6		8517.9	
1135.1	8632.5	(29)	7497.4	(27)
1293.6	5301.6	21 ⁻	4008.1	19 ⁻
1302.7	5389.7	22 ⁻	4086.9	20 ⁻

† From [2000Bh03](#) for ^{148}Eu .

‡ γ ray subject to DCO analysis ([2001K103](#)).

$^{130}\text{Te}(^{27}\text{Al},\alpha 5n\gamma)$ 2001K103

Level Scheme

 $^{148}_{63}\text{Eu}_{85}$

$^{130}\text{Te}(^{27}\text{Al},\alpha 5n\gamma)$ 2001K103