^{175}Lu(p,2nγ),(d,3nγ) 1971Ej01,1970Je09,1966Gr04

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, Huo Junde	NDS 87, 15 (1999)	1-Nov-1998

1971Ej01: enriched ^{175}Lu, E(p)=12 MeV. Measured Eγ and Iγ at θ=55°. Detector:Ge(Li).
1970Je09: E(p)=16, 21.4 MeV; E(d)=17.8 MeV. Measured Eγ and Iγ. Detectors: cryst,Ge(Li).
1966Gr04: E(p)=12 MeV. Measured E(ce) and Ice, ceγ coin. Detectors: magnetic spectrometer, scin.
1977Dr03: E(d)=24 MeV. Measured Eγ, prompt and delayed Iγ at θ=125°. Detector:Ge(Li).
Others: 1967Ge09, 1963Ha39.

^{174}Hf Levels

E(level)	Jπ	E(level)	Jπ	E(level)	Jπ	E(level)	Jπ
0.0†	0+	900.29‡ *21*	2+	1448 *1*		1947# *1*	8+
91.01† *1*	2+	1009.07† *21*	8+	1485.3† *4*	(10+)	2020†	(12+)
297.45† *4*	4+	1062.64‡ *21*	4+	1548#	6+	2026.1‡ *11*	(10+)
608.38† *11*	6+	1306.2 *3*		1629.2‡ *3*	(8+)	2179# *1*	9+
828.0‡ *7*	0+	1307.4‡ *5*	6+	1737# *1*	7+		

† Band(A): Kπ=0+ g.s.-rotational band.
‡ Band(B): Kπ=0+ β-vibrational band.
# Band(C): Kπ=6+ band. Dominate Configuration=(π 7/2[404])+(π 5/2[402]).

γ(^{174}Hf)

Iγ,E(d,X) From (p,2nγ) (1971Ej01).

Eγ	Iγ	E_i(level)	J_i^π	E_f	J_f^π	Comments
91.01† *1*		91.01	2+	0.0	0+	
x138 *1*	73 *21*					Iγ: contains contribution from impurities.
163 *1*	25 *7*	1062.64	4+	900.29	2+	
206.44† *3*	22.0×10^2 *7*	297.45	4+	91.01	2+	
245 *1*	9.5 *24*	1307.4	6+	1062.64	4+	
x290 *1*	35 *10*					
x292 *1*	35 *10*					
298 *1*	5 *3*	1307.4	6+	1009.07	8+	
310.92† *10*	10.0×10^2 *3*	608.38	6+	297.45	4+	
x353 *1*	30 *10*					
x358 *1*	20 *6*					
398 *1*	20 *8*	1947	8+	1548	6+	
401.05† *20*	183 *9*	1009.07	8+	608.38	6+	
442 *1*	7 *4*	2179	9+	1737	7+	
454 *1*	21 *5*	1062.64	4+	608.38	6+	
476.2† *3*	29 *6*	1485.3	(10+)	1009.07	8+	
535#		2020	(12+)	1485.3	(10+)	
540.8†		2026.1	(10+)	1485.3	(10+)	
x570 *1*	73 *15*					
603 *1*	43 *10*	900.29	2+	297.45	4+	
621.4† *3*	24 *8*	1629.2	(8+)	1009.07	8+	
x669 *1*	30 *6*					

Continued on next page (footnotes at end of table)

^{175}Lu(p,2nγ),(d,3nγ) 1971Ej01,1970Je09,1966Gr04 (continued)

γ(^{174}Hf) (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Comments
699 *1*	56 *8*	1307.4	6^+	608.38	6^+	
x724 *1*	13 *7*					
738 *1*	20 *4*	828.0	0^+	91.01	2^+	
x743 *1*	25 *5*					
764.9† *3*	92 *6*	1062.64	4^+	297.45	4^+	
x804 *1*	32 *5*					
809.5† *3*	54 *4*	900.29	2^+	91.01	2^+	
827‡		828.0	0^+	0.0	0^+	
900.1† *3*	54 *3*	900.29	2^+	0.0	0^+	
941 *1*	80 *8*	1548	6^+	608.38	6^+	
971.9† *3*	83 *6*	1062.64	4^+	91.01	2^+	I_γ: contains contribution from impurities.
1008.7† *3*	40 *8*	1306.2		297.45	4^+	
1010 *1*	39 *13*	1307.4	6^+	297.45	4^+	
1020.4† *3*	1.1×10^2 *3*	1629.2	(8^+)	608.38	6^+	
x1097‡						
1150‡		1448		297.45	4^+	
x1185.4†@ *3*						
x1206.5† *3*						
x1229.4† *3*						
x1239‡						
x1245.5† *3*						
1251#	70 *7*	1548	6^+	297.45	4^+	I_γ: from Iγ(941γ)/Iγ(1251γ)=1.1 in (d,3nγ) (1977Dr03).
x1330.9† *3*						
1355‡		1448		91.01	2^+	
x1404‡						

† From (p,2nγ) (1970Je09).
‡ From (p,2nγ) (1966Gr04).
# From (d,3nγ) (1977Dr03).
@ Placement of transition in the level scheme is uncertain.
x γ ray not placed in level scheme.

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Level Scheme

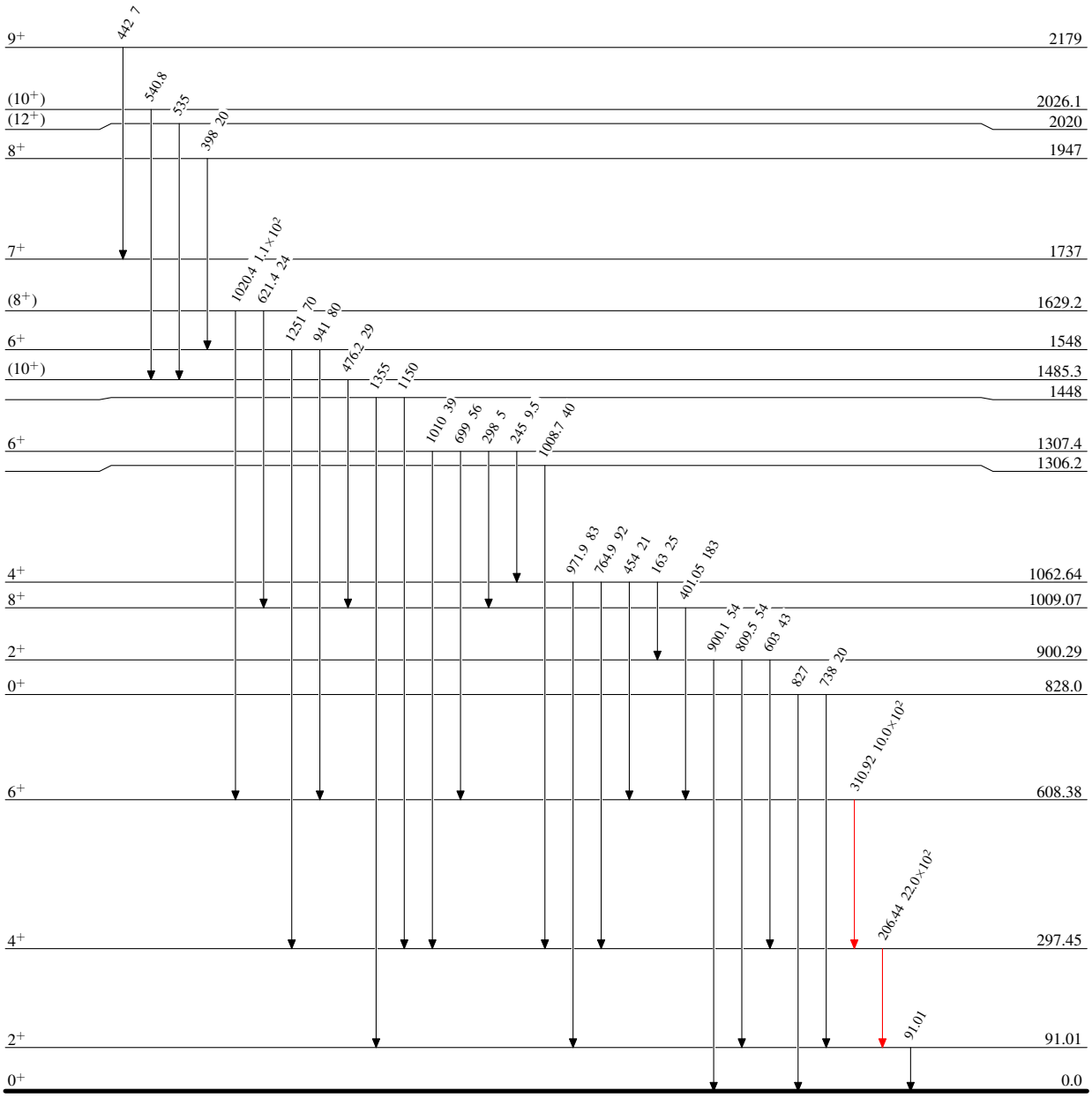
Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{174}_{72}Hf_{102}$

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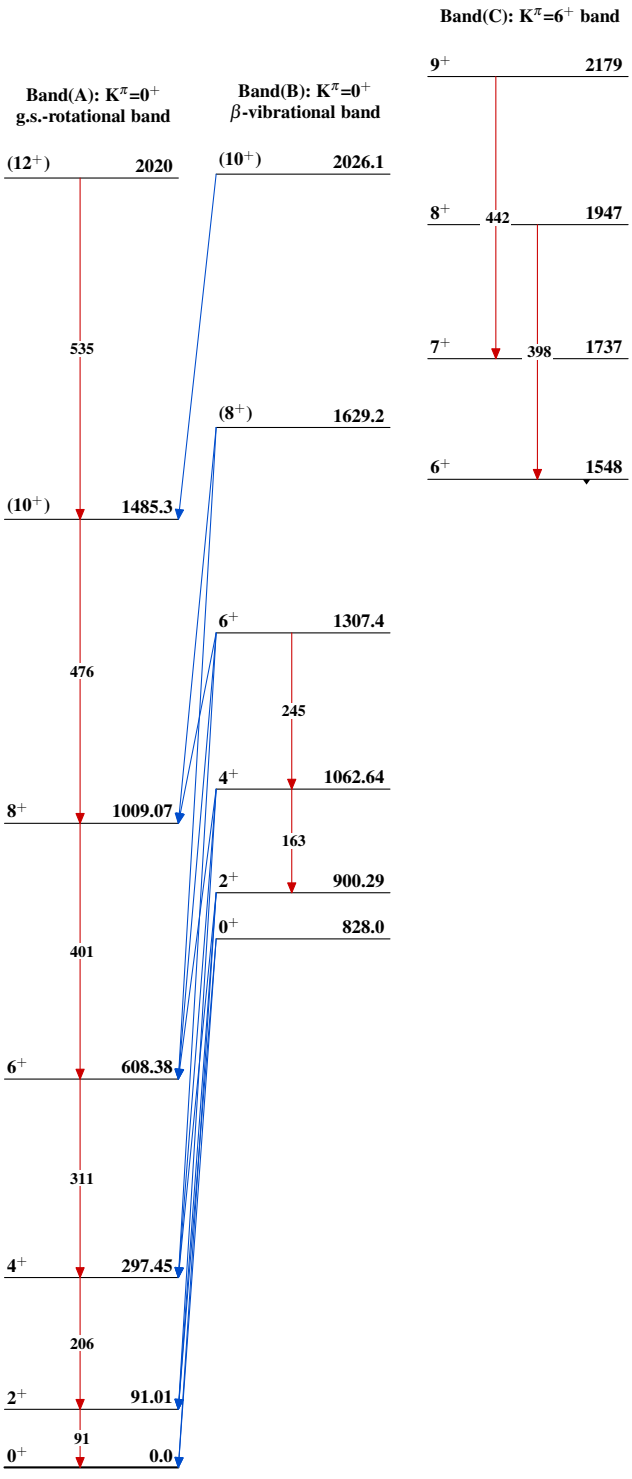

$^{174}_{72}Hf_{102}$