

$^{58}\text{Ni}(^{70}\text{Ge},2\text{pn}\gamma)$ **1998Pa23**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	J. Katakura	NDS 112, 495 (2011)	1-Jan-2010

1998Pa23: $^{58}\text{Ni}(^{70}\text{Ge},2\text{pn})$, E=280,310,340,370 MeV; clover detector, HPGe, recoil mass spectrometer.

1987YiZZ: $^{32}\text{S}(^{96}\text{Ru},2\text{p}1\text{n})^{125}\text{Ce}$, E=165 MeV, $\gamma\gamma$ coin.

^{125}Ce Levels

Band(α,β) Configuration=(ν h_{11/2})(523)7/2⁻.

Band(C,D) Configuration=(ν d_{5/2})(402)5/2⁺.

E(level) [‡]	J ^π [†]	E(level) [‡]	J ^π [†]	E(level) [‡]	J ^π [†]	E(level) [‡]	J ^π [†]
0.0	(7/2 ⁻)	462.0 13	(9/2 ⁺)	1023.5 12	(17/2 ⁻)	2336.5 19	
133.9 8	(9/2 ⁻)	510.4 10	(13/2 ⁻)	1143.0 17		2650.9 19	(27/2 ⁻)
135.0 10	(5/2 ⁺)	678.0 14	(11/2 ⁺)	1288.9 13	(19/2 ⁻)	3262.9?# 22	
282.0 13	(7/2 ⁺)	735.3 11	(15/2 ⁻)	1653.5 16	(21/2 ⁻)	4044.9? 24	
300.1 8	(11/2 ⁻)	912.0 15	(13/2 ⁺)	1941.9 16	(23/2 ⁻)		

[†] From Adopted Levels, gammas.

[‡] Least-squares fit to E γ 's by evaluators. Uncertainties of E γ 's are assumed to be 1 keV.

A reversal of the order of the 612 and 782 γ 's would give E=3432.9 22.

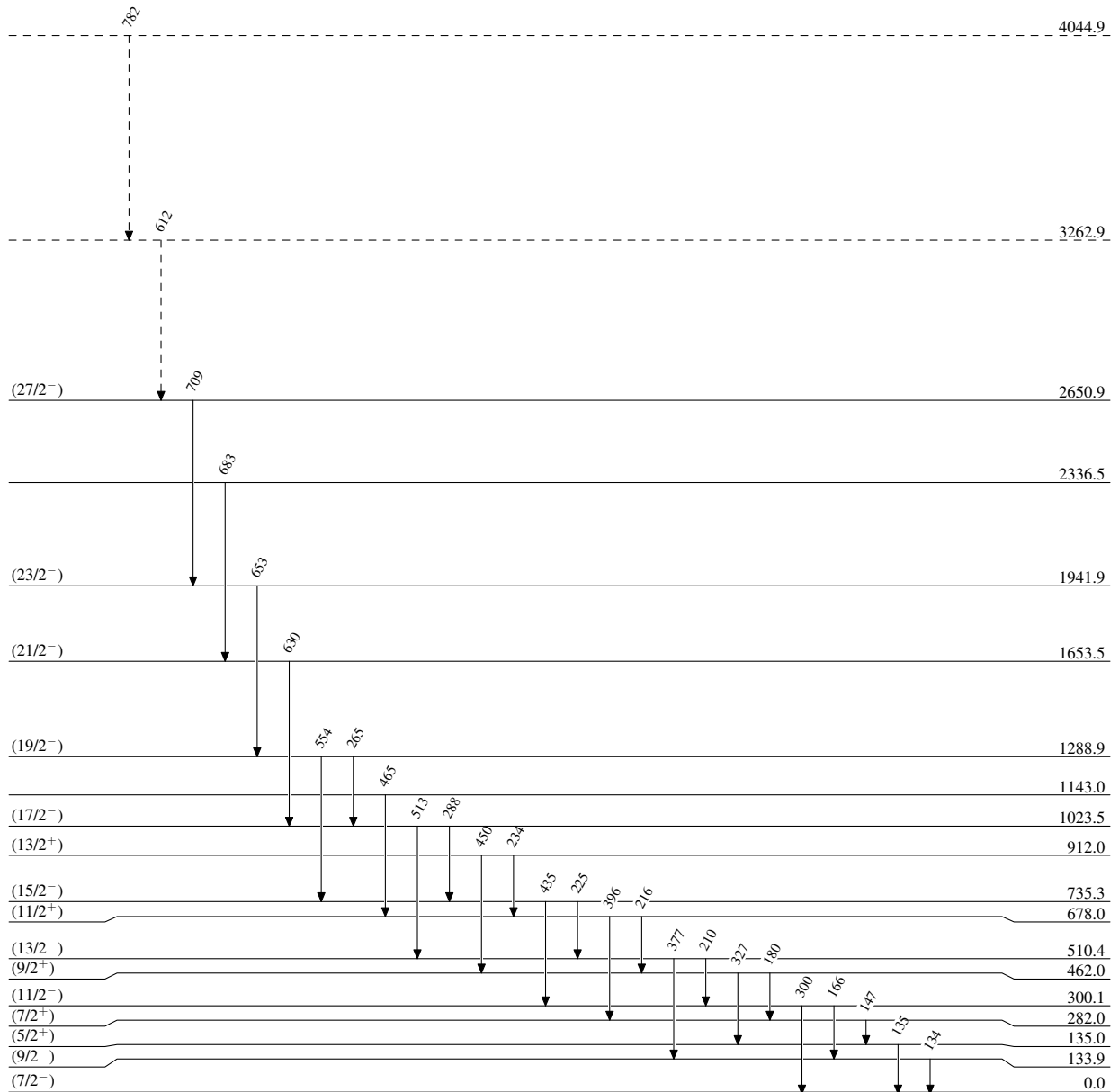
$\gamma(^{125}\text{Ce})$

E γ	E _i (level)	J _i ^π	E _f	J _f ^π	Comments
134	133.9	(9/2 ⁻)	0.0	(7/2 ⁻)	
135	135.0	(5/2 ⁺)	0.0	(7/2 ⁻)	
147	282.0	(7/2 ⁺)	135.0	(5/2 ⁺)	
166	300.1	(11/2 ⁻)	133.9	(9/2 ⁻)	
180	462.0	(9/2 ⁺)	282.0	(7/2 ⁺)	
210	510.4	(13/2 ⁻)	300.1	(11/2 ⁻)	
216	678.0	(11/2 ⁺)	462.0	(9/2 ⁺)	E γ : From 1987YiZZ.
225	735.3	(15/2 ⁻)	510.4	(13/2 ⁻)	
234	912.0	(13/2 ⁺)	678.0	(11/2 ⁺)	E γ : From 1987YiZZ.
265	1288.9	(19/2 ⁻)	1023.5	(17/2 ⁻)	
288	1023.5	(17/2 ⁻)	735.3	(15/2 ⁻)	
300	300.1	(11/2 ⁻)	0.0	(7/2 ⁻)	
327	462.0	(9/2 ⁺)	135.0	(5/2 ⁺)	E γ : From 1987YiZZ.
377	510.4	(13/2 ⁻)	133.9	(9/2 ⁻)	
396	678.0	(11/2 ⁺)	282.0	(7/2 ⁺)	
435	735.3	(15/2 ⁻)	300.1	(11/2 ⁻)	
450	912.0	(13/2 ⁺)	462.0	(9/2 ⁺)	
465	1143.0		678.0	(11/2 ⁺)	
513	1023.5	(17/2 ⁻)	510.4	(13/2 ⁻)	
554	1288.9	(19/2 ⁻)	735.3	(15/2 ⁻)	
612 [†]	3262.9?		2650.9	(27/2 ⁻)	The ordering of this γ and 782-keV γ is uncertain.
630	1653.5	(21/2 ⁻)	1023.5	(17/2 ⁻)	
653	1941.9	(23/2 ⁻)	1288.9	(19/2 ⁻)	
683	2336.5		1653.5	(21/2 ⁻)	
709	2650.9	(27/2 ⁻)	1941.9	(23/2 ⁻)	
782 [†]	4044.9?		3262.9?		The ordering of this γ and 612-keV γ is uncertain.

[†] Placement of transition in the level scheme is uncertain.

$^{58}\text{Ni}(^{70}\text{Ge}, 2\text{pn}\gamma)$ 1998Pa23

Legend

Level Scheme-----► γ Decay (Uncertain) $^{125}_{58}\text{Ce}_{67}$