

$^9\text{Be}(^{238}\text{U},\text{X}\gamma)$ 2016Re05

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 174, 1 (2021)	15-Apr-2021

2016Re05: E=1.29 GeV ^{238}U beam was produced from the accelerator at GANIL. Target was 1.85 mg/cm² Be. Fission fragments were detected and identified using the VAMOS++ magnetic spectrometer and from correlation of the energy loss in the ionization chamber and the measured total energy in the Si detectors. γ rays were detected with the EXOGAM array. Measured E_γ , $\gamma\gamma$ -coin. Deduced high-spin levels, J, π . Comparisons with shell-model calculations.

 ^{123}Cd Levels

E(level) [†]	J π [#]	Comments
140.65 ^{‡@}	(11/2 ⁻)	Additional information 1.
806.7 [@]	10 (15/2 ⁻)	
1607.7 [@]	15 (19/2 ⁻)	
2113? ²		
2377.7 [@]	18 (23/2 ⁻)	
2615.7 [@]	20 (25/2 ⁻)	
2812.7 [@]	23 (27/2 ⁻)	
2968.7 [@]	25 (29/2 ⁻)	

[†] From a least-squares fit to γ -ray energies, unless otherwise noted.

[‡] From Adopted Levels.

[#] Proposed by 2016Re05 from shell-model calculations.

[@] Seq.(A): Sequence based on (11/2⁻).

 $\gamma(^{123}\text{Cd})$

E_γ [†]	E_i (level)	J π _i	E_f	J π _f	Comments
^x 115					
156 I	2968.7	(29/2 ⁻)	2812.7	(27/2 ⁻)	
197 I	2812.7	(27/2 ⁻)	2615.7	(25/2 ⁻)	
238 I	2615.7	(25/2 ⁻)	2377.7	(23/2 ⁻)	
505 [‡] I	2113?		1607.7	(19/2 ⁻)	E_γ : Possibly located above the (19/2 ⁻) state from analogy with ^{121}Cd and ^{124}Cd (2016Re05).
666 I	806.7	(15/2 ⁻)	140.65	(11/2 ⁻)	
770 I	2377.7	(23/2 ⁻)	1607.7	(19/2 ⁻)	
801 I	1607.7	(19/2 ⁻)	806.7	(15/2 ⁻)	

[†] From 2016Re05.

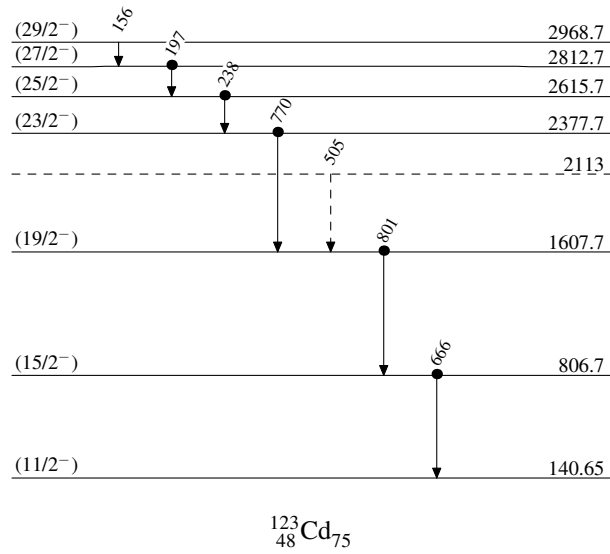
[‡] Placement of transition in the level scheme is uncertain.

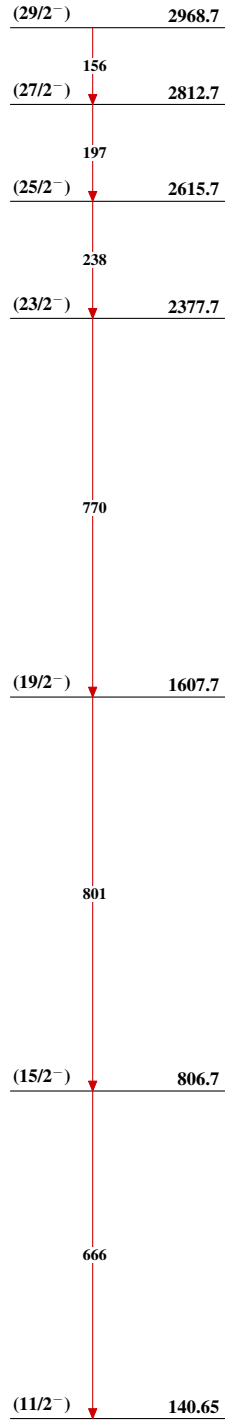
^x γ ray not placed in level scheme.

Legend

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Level Scheme

-----▶ γ Decay (Uncertain)
● Coincidence

$^9\text{Be}(^{238}\text{U},\text{X}\gamma)$ 2016Re05Seq.(A): Sequence based
on (11/2⁻) $^{123}_{48}\text{Cd}_{75}$