

(HI,xn γ) 1998Me27,1999Ta03,2000La36

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 108, 79 (2007)	15-Oct-2006

1998Me27: $^{175}\text{Lu}(^{28}\text{Si},4n\gamma)$ E=141 MeV. Measured E_γ , I_γ , $\gamma\gamma$, (recoil) γ coin using an array of 14 Compton-suppressed Ge detectors and a fragment recoil separator.

1999Ta03: $^{166}\text{Er}(^{36}\text{Ar},p2n\gamma)$ E=175 MeV. Measured E_γ , I_γ , (recoil) γ coin, recoil-decay tagging technique using JUROSPHERE array of 24 Compton-suppressed Ge detectors and RITU gas-filled separator. Total of six γ rays were assigned to ^{199}At , that were correlated with α groups from ^{199}At decay.

2000La36: $^{146}\text{Nd}(^{56}\text{Fe},p2n\gamma)$ E=250 MeV. Measured E_γ , recoil(γ) coin using one Compton-suppressed NORDBALL-type Ge detector placed beyond the focal plane of the RITU gas-filled separator. An isomer In ^{199}At identified by α -decay tagging technique.

 ^{199}At Levels

Level scheme proposed by **1998Me27** with levels At 434, 670, 1043 and 1370 is not supported In a later publication **2000La36** (with many authors common with **1998Me27**). **2000La36** mentioned that a detailed publication would be forthcoming, but none seems to have appeared as yet.

E(level)	J^π	$T_{1/2}$	Comments
0	(9/2 ⁻)		J^π : from 'Adopted Levels'.
573	(13/2 ⁺)	0.58 μs 13	E(level), J^π : from 2000La36 , J^π from systematics of nuclides In this region. $T_{1/2}$: recoil-decay (timing of recoil-x ray and recoil- γ ray events) tagging method (2000La36).

 $\gamma(^{199}\text{At})$

$E_\gamma^\dagger$	$I_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
^x 236.7 [‡]						E_γ : placed from a 670 level (1998Me27).
^x 327.1 [‡]						E_γ : placed from a 1370 level (1998Me27).
^x 372.8 [‡]						E_γ : placed from a 1043 level (1998Me27).
^x 433.2 1	53 8					E_γ : 433.6 γ placed from a 434 level (1998Me27).
573		573	(13/2 ⁺)	0	(9/2 ⁻)	E_γ : from 2000La36 .
^x 600.5 3	100 14					
^x 610.1 7	22 8					E_γ : 609.7 γ placed from a 1043 level (1998Me27).
^x 655.8 5	19 4					
^x 671.0 2	44 9					E_γ : 670.1 γ placed from a 670 level (1998Me27).
^x 700.6 7	11 3					E_γ : 700.1 γ placed from a 1370 level (1998Me27).

[†] From **1999Ta03** unless otherwise stated. Placement of some of transitions As suggested by **1998Me27** seems to Be not supported In a later paper **2000La36** (from many of the same authors). **2000La36** mention that a detailed paper on level structure In ^{199}At is forthcoming.

[‡] From **1998Me27**, not reported by **1999Ta03**.

^x γ ray not placed in level scheme.

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Level Scheme

Intensities: Relative I $_{\gamma}$

