

$^{238}\text{U}(^{64}\text{Ni},\text{X}\gamma)$ 2010Ch51

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Alan L. Nichols, Balraj Singh, Jagdish K. Tuli		NDS 113, 973 (2012)	15-Apr-2012

2010Ch51: $^{238}\text{U}(^{64}\text{Ni},\text{X}\gamma)$ E=430 MeV beam provided by ATLAS facility at ANL. Measured $E\gamma$, $I\gamma$, $\gamma\gamma\gamma$ coin., prompt (within a time window of 40 ns) and delayed (within a time window of ≈ 400 ns) spectra were sorted from 3-dimensional cubes. Gammasphere with 100 Compton-suppressed Ge detectors used for γ -ray measurements. Level scheme is based on analogous level structures in ^{58}Mn and ^{60}Mn .

 ^{62}Mn Levels

E(level) [†]	$J\pi^{\ddagger}$	$T_{1/2}^{\ddagger}$	Comments
0+y	(4 ⁺)	671 ms 5	
113.8+y [#] 3	(4)	95 ns 2	$T_{1/2}$: from 2010Da06 (also 1999DaZQ thesis).
222.4+y [#] 4	(5)		
418.0+y [#] 6	(6)		
642.6+y [#] 6	(7)		
1183.6+y [#] 12	(8)		

[†] From $E\gamma$ data of 2010Ch51.

[‡] from Adopted Levels.

[#] Band(A): Band based on (4).

 $\gamma(^{62}\text{Mn})$

A 155-keV transition in ^{62}Mn reported in 2008Va08 was not observed by 2010Ch51. Its absence in 2010Ch51 may be due to 156 γ being a low lying transition forming a short cascade and not a 3-fold coincidence as required in the measurements by 2010Ch51.

$E\gamma^{\dagger}$	$I\gamma^{\dagger}$	$E_i(\text{level})$	J_i^{π}	E_f	J_f^{π}
108.6 3	>1.3	222.4+y	(5)	113.8+y	(4)
113.8 3	>1.3	113.8+y	(4)	0+y	(4 ⁺)
195.6 3	1.3 3	418.0+y	(6)	222.4+y	(5)
224.6 3	0.9 2	642.6+y	(7)	418.0+y	(6)
541 1	0.20 10	1183.6+y	(8)	642.6+y	(7)




[†] From e-mail reply of Jan 3, 2011 from C. Chiara, first author of 2010Ch51.

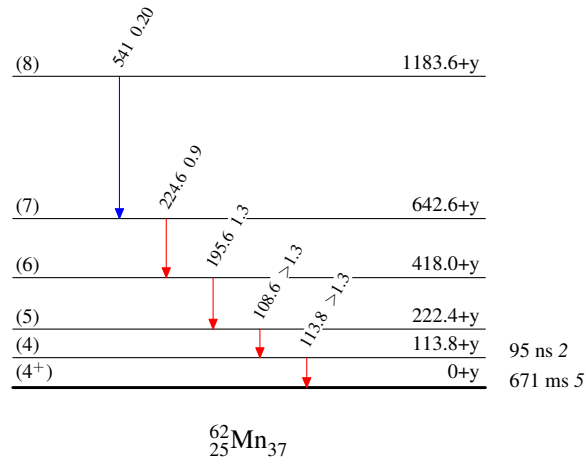
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Level Scheme

Intensities: Relative I_γ

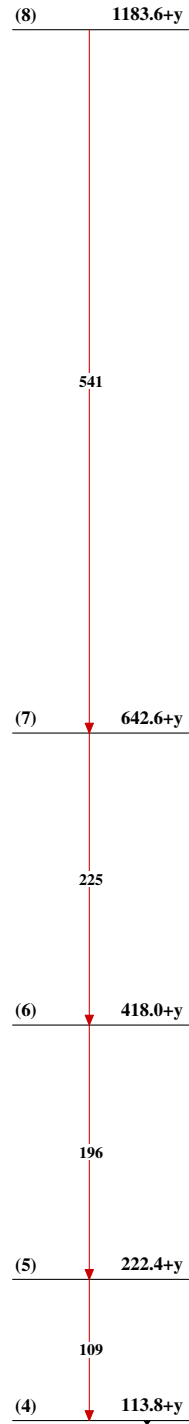
Legend

-  $I_\gamma < 2\% \times I_\gamma^{max}$
 $I_\gamma < 10\% \times I_\gamma^{max}$
 $I_\gamma > 10\% \times I_\gamma^{max}$



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Band(A): Band based on
(4)

 $^{62}_{25}\text{Mn}_{37}$