

$^{113}\text{In}$  IT decay (99.476 min) 1971Ha18

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 111, 1471 (2010)	1-May-2009

Parent:  $^{113}\text{In}$ : E=391.691 8;  $J^\pi=1/2^-$ ;  $T_{1/2}=99.476$  min 23; %IT decay=100.0

$^{113}\text{In}$ -%IT decay: From the presence of Cd K x rays from a  $^{113}\text{In}$  (99 min) source, 1970Ra05 (and 1969RaZP) reported  $\varepsilon$  decay of this level with  $I_\varepsilon = 0.07\%$ . Such a transition to  $^{113}\text{Cd}$  would be 1<sup>st</sup> forbidden,  $1/2^-$  to  $1/2^+$ , and would have a log  $ft$  of 5.1, which is possible but unlikely since the log  $ft$  systematics (1998Si17) indicate that is the lower limit of the observed values. Also, 1970De22 (see also 1969De25) repeated the experiment and placed a limit of <0.0036% on this  $\varepsilon$  transition for which the log  $ft$  is >6.5. Such an electron capture branch is therefore negligible and has not been included in this scheme.

Evaluation by M.-M. Be, March 1999 This evaluation was done as part of a collaboration of evaluators from Laboratoire National Henri Becquerel (LNHB) in France; Physikalisch-Technische Bundesanstalt (PTB) in Germany; HMS Sultan and AEA Technology in the United Kingdom; Khlopin Radium Institute (KRI) in Russia; Centro de Investigaciones Energeticas, Medioambientales, y Tecnologicas (CIEMAT) and Universidad Nacional a Distancia (UNED) in Spain; and Brookhaven National Laboratory (BNL), Lawrence Berkeley National Laboratory (LBNL), and Idaho National Engineering and Environmental Laboratory (INEEL) in the United States.

Measured Ice, Ice(K) from (ce)(K x ray)-coin, I $\gamma$ , 1971Ha18.

$\alpha$ : [Additional information 1](#).

 $^{113}\text{In}$  Levels

E(level)	$J^\pi$	$T_{1/2}^\dagger$
0.0	$9/2^+$	stable
391.699 3	$1/2^-$	1.6579 h 4

$^\dagger$  See  $^{113}\text{In}$  Adopted Levels.

 $\gamma(^{113}\text{In})$ 

$E_\gamma$	$I_\gamma^\dagger$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult.	$\alpha$	Comments
391.698 3	64.94 17	391.699	$1/2^-$	0.0	$9/2^+$	M4	0.551	$\alpha(\text{K})=0.444$ 7; $\alpha(\text{L})=0.0862$ 12; $\alpha(\text{M})=0.01750$ 25; $\alpha(\text{N})=0.00316$ 5; $\alpha(\text{O})=0.000194$ 3 $\alpha(\text{N}+..)=0.00335$ 5 $\text{B}(\text{M4})(\text{W.u.})=8.31$ 9 $E_\gamma$ : from 2000He14 evaluation. $I_\gamma$ : From $I_\gamma(391) = [100.0 - \text{Ti}(646)] / [1 + \alpha(391)]$ ; the uncertainty is all from the 0.26% uncertainty in $(1 + \alpha)$ . Mult.: from $\alpha(\text{K})_{\text{exp}}=0.437$ 7, $\alpha(\text{exp})=0.540$ 7, $\alpha(\text{K})_{\text{exp}}/\alpha(\text{L}+...)\text{exp}=4.21$ 8 (1971Ha18); $\alpha(\text{L})_{\text{exp}}/\alpha(\text{M})_{\text{exp}}$ , $\alpha(\text{L})_{\text{exp}}/\alpha(\text{N})_{\text{exp}}$ , $\alpha(\text{M})_{\text{exp}}/\alpha(\text{N})_{\text{exp}}$ (1972Ko38). Others: 1970Go48, 1970Le07, 1971GoYM, 1985HaZA. $\alpha$ : $\alpha$ and $\alpha_{\text{K}}$ are from 1985HaZA evaluation of measured values; these values average 3% lower than the theoretical values of 1978Ro21. The $\alpha_{\text{L}}$ and $\alpha_{\text{M}}$ were then computed as 3% lower than the corresponding theoretical values.

$^\dagger$  Absolute intensity per 100 decays.

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 **$^{113}\text{In}$  IT decay (99.476 min) 1971Ha18****Decay Scheme**

Intensities:  $I_{(\gamma+ce)}$  per 100 parent decays  
%IT=100.0

