### $^{165}$ Ho( $\gamma$ ,n $\gamma$ ) **2008**Ha**21**

History

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Full Evaluation Balraj Singh and Jun Chen# NDS 147, 1 (2018) 30-Nov-2017

2008Ha21: E=3.3-16.7 MeV  $\gamma$ -rays provided by Compton scattering of laser photons and relativistic electrons at NewSUBARU electron storage ring facility. Measured E $\gamma$ , half-life of  $^{164}$ Ho isomer using an HPGe detector.

The half-life of this isomer is of astrophysical significance.

The  $^{165}\text{Ho}(\gamma,n)$  reaction populates both the g.s. and isomer of  $^{164}\text{Ho}$ .

#### <sup>164</sup>Ho Levels

E(level)	$J^{\pi \ddagger}$	T <sub>1/2</sub>	Comments
0.0	1+		The 73.4 and 91.4 keV $\gamma$ rays are seen by 2008Ha21 from the decay of $^{164}$ Ho g.s. through $\varepsilon$ and $\beta^-$ modes.
37.3	2+		
94.0	3+		
140	6-	36.4 min <i>3</i>	%IT=100
			Tug: from 2008Ha21 Value is 36.6 min 3 in Adopted Levels

 $T_{1/2}$ : from 2008Ha21. Value is 36.6 min 3 in Adopted Levels.

### $\gamma(^{164}\text{Ho})$

$E_{\gamma}$	$E_i(level)$	$\mathbf{J}_i^{\pi}$	$\mathbf{E}_f  \mathbf{J}_f^{\pi}$	Mult.	Comments
37.3	37.3	2+	0.0 1+		
46	140	6-	94.0 3+	E3	Mult.: from Adopted Gammas.
56.6	94.0	3+	37.3 2+		
94.0	94.0	3+	$0.0  1^{+}$		

<sup>†</sup> From Ey data.

<sup>‡</sup> From Adopted Levels.

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# Level Scheme

