



1 Decay Scheme

L'erbium 169 se désintègre par émission bêta moins vers les niveaux excités ou le niveau fondamental de thulium 169.

Er-169 disintegrates by beta minus emissions to Tm-169.

2 Nuclear Data

$T_{1/2}({}^{169}\text{Er})$: 9,38 (2) d
 $Q^{-}({}^{169}\text{Er})$: 353,0 (12) keV

2.1 β^{-} Transitions

	Energy (keV)	Probability (%)	Nature	$\lg ft$
$\beta_{0,2}^{-}$	234,8 (12)	$\sim 0,016$	Unique 1st Forbidden	9,5
$\beta_{0,1}^{-}$	344,6 (12)	44 (5)	1st Forbidden	6,5
$\beta_{0,0}^{-}$	353,0 (12)	56 (5)	1st Forbidden	6,3

2.2 Gamma Transitions and Internal Conversion Coefficients

	Energy (keV)	$P_{\gamma+ce}$ (%)	Multipolarity	α_K	α_L	α_M	α_N	α_O	α_T
$\gamma_{1,0}(\text{Tm})$	8,4102 (1)	44 (6)	M1+0,094%(E2)			199 (8)	45,8 (18)	6,1 (2)	251 (10)
$\gamma_{2,1}(\text{Tm})$	109,77930 (14)	0,0152 (30)	M1+2,17%E2	1,96 (3)	0,316 (5)	0,0710 (12)	0,017 (1)	0,0024 (1)	2,37 (4)
$\gamma_{2,0}(\text{Tm})$	118,1895 (1)	0,0013	E2	0,70 (1)	0,721 (10)	0,1759 (25)	0,040 (1)	0,0047 (1)	1,642 (23)

3 Atomic Data

3.1 Tm

ω_K	:	0,945	(4)
$\bar{\omega}_L$:	0,227	(9)
$\bar{\omega}_M$:	0,0127	(12)
n_{KL}	:	0,835	(4)

3.1.1 Auger Electrons

	Mean Energy (keV)	Relative probability
Auger MNO		
M	0,70	36,69
N	0,10	57,11
O	0,02	6,20
Auger total	0,32	100

4 Electron Emissions

		Energy (keV)		Electrons (per 100 disint.)
e ^A Total	(Tm)			
	avg M	0,70	}	203,3
	avg N	0,10		
	avg O	0,02		
ec _{1,0} M	(Tm)	6,1034 - 6,9425		34,8 (44)
ec _{1,0} N	(Tm)	7,9385 - 8,4049		8 (1)
ec _{1,0} O	(Tm)	8,3570 - 8,3779		1,07 (13)
ec _{2,1} T	(Tm)	50,3897 - 109,7470		0,0107 (21)
$\beta_{0,2}^-$	max:	234,8	}	0,016
	avg:	73,0		
$\beta_{0,1}^-$	max:	344,6	}	44 (5)
	avg:	96,5		
$\beta_{0,0}^-$	max:	353,0	}	56 (5)
	avg:	99,1		

5 Photon Emissions

5.1 Gamma Emissions

	Energy (keV)	Photons (per 100 disint.)
$\gamma_{1,0}(\text{Tm})$	8,4102 (1)	0,174 (21)
$\gamma_{2,1}(\text{Tm})$	109,77930 (14)	0,0045 (9)
$\gamma_{2,0}(\text{Tm})$	118,1895 (1)	0,0005

6 Main Production Modes

- { Er – 168(d,p)Er – 169
Possible impurities: Er – 165, Er – 171
- { Er – 170(n,2n)Er – 169
Possible impurities: Ho – 167
- { Er – 168(n, γ)Er – 169 σ : 2,0 (1) barns
Possible impurities: Er – 165, Er – 171

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