



1 Decay Scheme

Ge-68 disintegrate 100 % by electron capture to the Ga-68 ground state which has a half-life of 67,8 min.
Le Ge-68 se désintègre à 100 % par capture électronique vers le niveau fondamental de Ga-68 qui a une période de 67,8 min.

2 Nuclear Data

$T_{1/2}({}^{68}\text{Ge})$:	270,95	(26)	d
$T_{1/2}({}^{68}\text{Ga})$:	67,83	(20)	min
$Q^+({}^{68}\text{Ge})$:	106,9	(24)	keV

2.1 Electron Capture Transitions

	Energy keV	Probability × 100	Nature	lg <i>ft</i>	P_K	P_L	P_M
$\epsilon_{0,0}$	106,9 (24)	100	Allowed	5,006	0,8639 (24)	0,1150 (23)	0,0196 (5)

3 Atomic Data

3.1 Ga

ω_K	:	0,517	(4)
$\bar{\omega}_L$:	0,0123	(4)
n_{KL}	:	1,294	(4)

3.1.1 X Radiations

		Energy keV		Relative probability
X _K	K α_2	9,22495		51,46
	K α_1	9,25184		100
	K β_3	10,2605	}	
	K β_1	10,2644	}	
	K β_5''	10,348	}	22,07
	K β_2	10,3664	}	
	K β_4		}	0,0013
	X _L	L ℓ	0,959	
	L α	1,098 – 1,099		
	L η	0,985		
	L β	1,114 – 1,283		
	L γ	1,141 – 1,303		

3.1.2 Auger Electrons

		Energy keV	Relative probability
Auger K			
	KLL	7,708 – 8,069	100
	KLX	8,889 – 9,251	29,1
	KXY	10,051 – 10,366	2,12
Auger L		0,8 – 1,3	384

4 Electron Emissions

		Energy keV	Electrons per 100 disint.
e _{AL}	(Ga)	0,8 - 1,3	121,8 (7)
e _{AK}	(Ga)		41,7 (5)
	KLL	7,708 - 8,069	}
	KLX	8,889 - 9,251	}
	KXY	10,051 - 10,366	}

5 Photon Emissions

5.1 X-Ray Emissions

		Energy keV	Photons per 100 disint.	
XL	(Ga)	0,959 — 1,303	1,490 (24)	
XK α_2	(Ga)	9,22495	13,25 (15)	} K α
XK α_1	(Ga)	9,25184	25,74 (26)	}
XK β_3	(Ga)	10,2605	}	
XK β_1	(Ga)	10,2644	}	K' β_1
XK β_5''	(Ga)	10,348	}	
XK β_2	(Ga)	10,3664	}	
XK β_4	(Ga)		} 0,034 (9)	K' β_2

6 Main Production Modes

Zn – 66(α ,2n)Ge – 68

Ga – 69(p,2n)Ge – 68

Nat.Ga(p,x)Ge – 68

7 References

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