



1 Decay Scheme

Na-22 disintegrates predominantly to the 1275 keV level of Ne-22 (89,84 % beta plus and 10,11 % electron capture). A very small fraction (0,056 %) disintegrates to the ground state of Ne-22.

Le Na-22 se désintègre essentiellement vers le niveau de 1275 keV de Ne-22 par émission bêta plus (89,84 %) et capture électronique (10,11 %). Une faible proportion (0,056 %) se désintègre vers le niveau fondamental.

2 Nuclear Data

$$T_{1/2}(^{22}\text{Na}) : 2,6027 \quad (10) \quad \text{a}$$

$$Q^+(^{22}\text{Na}) : 2842,2 \quad (4) \quad \text{keV}$$

2.1 β^+ Transitions

	Energy keV	Probability × 100	Nature	lg <i>ft</i>
$\beta_{0,1}^+$	545,6 (4)	89,836 (10)	Allowed	7,41
$\beta_{0,0}^+$	1820,2 (4)	0,056 (14)	Unique 2nd Forbidden	14,91

2.2 Electron Capture Transitions

	Energy keV	Probability × 100	Nature	lg <i>ft</i>	P_K	P_L
$\epsilon_{0,1}$	1567,6 (4)	10,11 (11)	Allowed	7,41	0,923 (4)	0,077 (5)
$\epsilon_{0,0}$	2842,2 (4)	0,0010 (3)	Unique 2nd Forbidden	14,91		

2.3 Gamma Transitions and Internal Conversion Coefficients

	Energy keV	$P_{\gamma+ce}$ $\times 100$	Multipolarity	α_K (10^{-6})	α_T (10^{-6})	α_π (10^{-5})
$\gamma_{1,0}(\text{Ne})$	1274,577 (7)	99,943 (14)	E2	6,3 (6)	6,8 (4)	2,1 (3)

3 Atomic Data

3.1 Ne

ω_K	:	0,0152	(8)
$\bar{\omega}_L$:	0,0001	(1)
n_{KL}	:	1,985	(6)

3.1.1 X Radiations

	Energy keV	Relative probability
X_K	$K\alpha_2$	0,848
	$K\alpha_1$	0,849

4 Photon Emissions

4.1 X-Ray Emissions

	Energy keV	Photons per 100 disint.	
$XK\alpha_2$ (Ne)	0,848	0,0475 (26)	} $K\alpha$
$XK\alpha_1$ (Ne)	0,849	0,094 (5)	

4.2 Gamma Emissions

	Energy keV	Photons per 100 disint.
γ^\pm	511,	179,8 (2)
$\gamma_{1,0}(\text{Ne})$	1274,537 (7)	99,940 (14)

5 Electron Emissions

	Energy keV	Electrons per 100 disint.
$\beta_{0,1}^+$	max: 545,6 (4)	89,836 (10)
$\beta_{0,1}^+$	avg: 215,54 (17)	
$\beta_{0,0}^+$	max: 1820,2 (4)	0,056 (14)
$\beta_{0,0}^+$	avg: 834,95 (19)	

6 Main Production Modes

F – $^{19}(\alpha, n)\text{Na} - 22$

Mg – $^{24}(d, \alpha)\text{Na} - 22$

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