



1 Decay Scheme

F-18 decays by a beta plus transition (96.86 (19) %), and electron capture (3.14 (19) %) directly to the ground state of the stable nuclide O-18.

Le fluor 18 se désintègre à 96,86(19) % par émission bêta plus, et 3,14(19) % par capture électronique vers le niveau fondamental de l'oxygène 18.

2 Nuclear Data

$$T_{1/2}({}^{18}\text{F}) : 1,82890 \quad (23) \quad \text{h}$$

$$Q^+({}^{18}\text{F}) : 1655,9 \quad (5) \quad \text{keV}$$

2.1 Electron Capture Transitions

	Energy (keV)	Probability (%)	Nature	lg ft	P _K	P _L	P _M
$\epsilon_{0,0}$	1655,9 (5)	3,14 (19)	Allowed	3,57	0,927 (5)	0,073 (5)	

2.2 β^+ Transitions

	Energy (keV)	Probability (%)	Nature	lg ft
$\beta^+_{0,0}$	633,9 (5)	96,86 (19)	Allowed	3,57

3 Atomic Data

3.1 O

$$\omega_K : 0,0069 \quad (7)$$

3.1.1 X Radiations

	Energy (keV)	Relative probability
X_K		
$K\alpha_2$	0,525	35
$K\alpha_1$	0,525	65

3.1.2 Auger Electrons

	Energy (keV)	Relative probability
Auger K		
KLL	0,456 - 0,502	100
Auger L	0,0143	

4 Electron and Positron Emissions

	Energy (keV)	Electrons (per 100 disint.)
e_{AL} (O)	0,0143	0,229 (21)
e_{AK} (O)		
KLL	0,456 - 0,502	2,89 (18)
$\beta_{0,0}^+$ max:	633,9 (5)	} 96,86 (19)
avg:	249,5 (3)	

5 Photon Emissions

5.1 X-Ray Emissions

		Energy (keV)	Photons (per 100 disint.)	
XK α_2	(O)	0,525	0,007 (2)	} K α
XK α_1	(O)	0,525	0,013 (4)	

5.2 Gamma Emissions

	Energy (keV)	Photons (per 100 disint.)
γ^\pm	511	193,72 (38)

6 Main Production Modes

- O – 18(p,n)F – 18
- O – 16(t,n)F – 18
- F – 19(p,d)F – 18
- O – 17(He – 3,d)F – 18

7 References

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