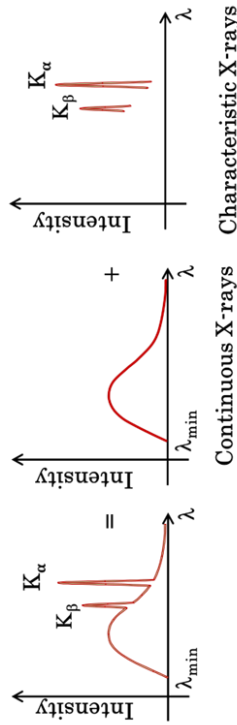
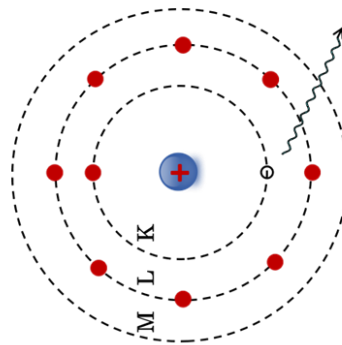


X-Rays Spectrum



Characteristic X-ray



These are emitted when electron from cathode, knocks out an inner electron from target material and then it's position is filled by higher energy level electron.

MIND MAP

X-Rays

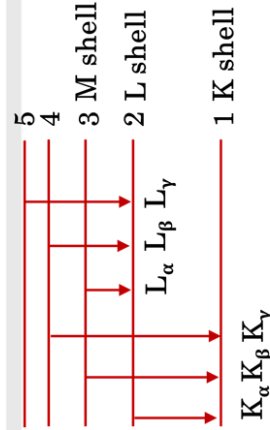
Continuous X-rays

Continuous X-rays are emitted due to high retardation of electrons coming from cathode

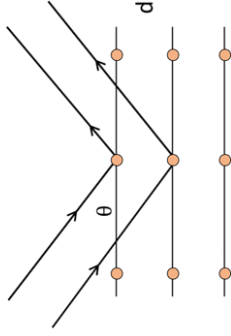
Minimum wavelength below which no X-rays is emitted is called Cutoff wavelength or Threshold wavelength.

$$\lambda_{\min} = \frac{hc}{eV_0}$$

$\lambda_{\min}$ is independent of filament voltage or filament temperature.



Bragg's Law



For Constructive Interference

$$2d \sin \theta = n \lambda$$

$\theta = \text{bragg's angle}$

Moseley's Law

$$\sqrt{\nu} = a (Z - b)$$

$$\sqrt{\nu} = \sqrt{\frac{3}{4} R c (Z - 1)}$$

For K_α : $b=1$

Shielding Effect

Absorption of X-rays

