Intensity of x rays

Amount of energy radiated per second per unit area

Expression for intensity in terms of energy

$$I = \frac{E}{tA}$$

Expression for intensity in terms of power

$$I = \frac{P}{A}$$

Unit of intensity

Watt perm^2

Dimensional formula of intensity of x rays

$$I = MT^{-3}$$

Derivation for expression of intensity of x rays in terms of absorption

- $$dI \alpha I dx$$
- $$dI = -\mu I dx$$
- $$\frac{dI}{I} = -\mu dx$$
- $$\int \frac{dI}{I} = -\mu \int dx$$
- $$\log_e(\frac{I}{I_0}) = -\mu x$$
- $$I = I_0 e^{-\mu x}$$

Expression for intensity of x rays in terms of absorption

- $$I = I_0 e^{-\mu x}$$

Term for X rays

Roentzen rays

Range of wavelength of x rays

$$10^{-9} m to 10^{-12} m$$

Relation of intensity with number of electrons emitted per second in x rays

Directly proportional

Method of increasing intensity in x rays

Increase filament current

Quality in x rays

Penetrating power of x rays

Relation of quality of x rays with potential difference

Directly proportional

Magnitude of wavelength for order of soft x rays

4 Angstrom

Magnitude of wavelength for order of hard x rays

1 Angstrom

Duane Haunt law in x rays

Minimum wavelength is inversely proportional to accelerating potential

Limiting wavelength in x rays

Abrupt ending of x ray spectrum at minimum wavelength

Reverse effect for production of continuous x rays

Photo electric effect

Person verifying wave nature of x rays

Von Lane