

Heisenberg
 $\Delta p \Delta x \geq \frac{\hbar}{2}$
 $"\Delta E \cdot \Delta t" \geq \frac{\hbar}{2}$

$$L = \hbar B$$

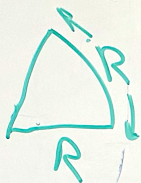
charged $\rightarrow$

$$\frac{I [\mu A]}{q_{particle} (= e)}$$

$$\underbrace{1.6 \cdot 10^{-19} C}$$

Ex.: $1 \mu A \ e^- = \frac{10^{-6} C/s}{1.6 \cdot 10^{-19} C} = 6.25 \cdot 10^{12} e^-/s$

$$1 \text{ rad} =$$



1 m sr

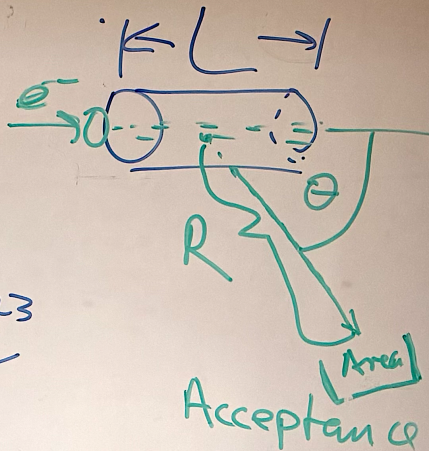
$$1 \text{ sr} = \text{steradian}$$

$$\text{Area} = R^2$$

$$\frac{\rho [g/cm^3]}{\text{Atomic Mass}}$$

$$\frac{(vols) \cdot 6 \cdot 10^{23}}{N_A}$$

$$\frac{3.6 \cdot 10^{36}}{s \cdot cm^3} \cdot L [cm]$$



$$\Delta \sigma = 1 \mu b = 10^{-30} cm^2$$

$$\Delta \sigma (Det) \sim \frac{\text{Area}}{p^2} = \Delta \Omega$$