

SESSION 8

Magnetic field due to current in a wire $B = \frac{\mu_0 I}{2pr}$; $\mu_0 = 4\pi \times 10^{-7} \text{ T}\cdot\text{m/A}$

Ampere's Law $\oint \vec{B} \cdot d\vec{\ell} = \mu_0 I_{\text{enclosed}}$

Gauss' Law $\oint \vec{B} \cdot d\vec{A} = 0$

Solenoid $B = \mu_0 In$

Biot-Savart Law $d\vec{B} = \frac{\mu_0 I}{4\pi} \frac{d\vec{\ell} \times \vec{r}}{r^3}$

Field due to a ring $B_x = \frac{\mu_0 R^2 I}{2(R^2 + d^2)^{3/2}}$