

# B from Infinite Line of Current

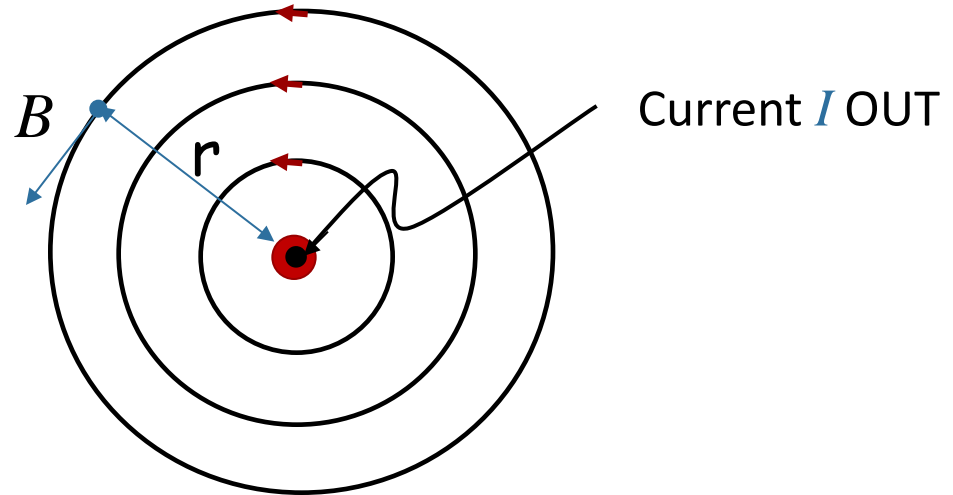
Integrating  $d\vec{B} = \frac{\mu_0 I}{4\pi} \frac{d\vec{s} \times \hat{r}}{r^2}$  gives result

Magnitude:

$$B = \frac{\mu_0 I}{2\pi r}$$

$$\mu_0 = 4\pi \times 10^{-7} \text{ Tm / A}$$

$r$  = distance from wire



Direction:

Thumb: on  $I$

Fingers: curl in direction of  $B$

