Magnetic Field Generated by Current in Straight Wire (2)

Consider a current I in a straight wire of infinite length.

- The magnetic field lines are concentric circles in planes prependicular to the wire.
- The magnitude of the magnetic field at distance R from the center of the wire is $B = \frac{\mu_0 I}{2\pi R}$.
- The magnetic field strength is proportional to the current I and inversely proportional to the distance R from the center of the wire.
- The magnetic field vector is tangential to the circular field lines and directed according to the right-hand rule.