

Figures and Captions

Figure 1A: Magnetic influence around a straight wire

The right-hand rule of thumb is used to determine the orientation of the magnetic influence around a conductor. Credit: <https://edurev.in>.

Figure 1B: Magnetic influence around a coiled wire

Cardstock and iron filings make the invisible force of electromagnetism very visible. Credit: www.funscience.in.

Figure 2A: Faraday's Induction Ring

The nearly two-hundred-year-old proto-transformer that Faraday painstakingly hand-wound. Credit: Royal Institution of London.

Figure 2B: Faraday's Induction Experiment (Using electric current)

Faraday called this method “voltaic-electric” induction. Credit: www.britannica.com.

Figure 2C: Faraday's Induction Experiment (Using magnetism)

Faraday called this method “magneto-electric” induction. Credit: Katalin Molnar, 2014 (Slideserve.com).

Figures 3A: Electric Lines of Force

Lines of electric force begin on positive charges and terminate on negative charges. Between like charges, they diverge in repulsion, and between unlike charges, they converge in attraction. Credit: Alloprof, www.alloprof.qc.ca.

Figure 3B: Magnetic Lines of Force

Magnetic lines of force always form continuous closed loops—some closing directly from pole to pole, others extending far outward before eventually curving back to complete the circuit through the magnet. Credit: Conceptual Physics, <https://tinyurl.com/4cxsmucd>.

Figure 4: Mutual Relation of Electricity, Magnetism and Motion

The genesis of Faraday's lines of force; journal entry 402, March 26, 1832. His geometrical orthogonal force theory of electromagnetism was nothing short of mind-blowing! Credit: *Experimental Researches in Electricity, Series I*, Michael Faraday, 1832.