

4. Magnetic Materials

4.1 Definitions and General Relations

[4.1.1 Fields, Fluxes and Permeability](#)

[4.1.2 Origin of Magnetic Dipoles](#)

[4.1.3 Classifications of Interactions and Types of Magnetism](#)

[4.1.4 Summary to: Magnetic Materials - Definitions and General Relations](#)

4.2 Dia- and Paramagnetism

[4.2.1 Diamagnetism](#)

[4.2.2 Paramagnetism](#)

[4.2.3 Summary to: Dia- and Paramagnetism](#)

4.3 Ferromagnetism

[4.3.1 Mean Field Theory of Ferromagnetism](#)

[4.3.2 Beyond Mean Field Theory](#)

[4.3.3 Magnetic Domains](#)

[4.3.4 Domain Movement in External Fields](#)

[4.3.5 Magnetic Losses and Frequency Behavior](#)

[4.3.6 Hard and Soft Magnets](#)

[4.3.7 Summary to: Ferromagnetism](#)

4.4 Applications of Magnetic Materials

[4.4.1 Everything Except Data Storage](#)

[4.4.2 Magnetic Data Storage](#)

[4.4.3 Summary to: Technical Materials and Applications](#)

4.5. Summary: Magnetic Materials