Ch. 20-21 Notes

John Yang

December 26, 2020

20 Magnetic Forces and the Magnetic Field

20.1 The Magnetic Field

-

20.2 Applications

-

20.3 Magnetic Forces on Currents

-

20.4 Work Done by Magnetic Forces

-

20.5 Torque on a Current Loop in a Magnetic Field

-

20.6 The Biot-Savart Law

-

20.7 Forces of Parallel Currents on Each Other and the definition of the Ampere

-

20.8 Gauss' Law for the Magnetic Field

-

20.9 Magnetic Poles and current loops

-

20.10 Ampere's Law

-

20.11 The Displacement Current and the Ampere-Maxwell Law

-

20.12 Magnetic Materials

-

20.13 The Magnetic Field of the Earth

-

21 Faraday's Law of Electromagnetic Induction

21.1 Faraday's Law of Electromagnetic Induction

-

21.2 Lenz's Law

-

21.3 An ac generator

-

21.4 Summary of the Maxwell Equations of Electromagnetism

-

21.5 Electromagnetic Waves

-

21.6 Self-Inductance

-

21.7 Series and Parallel Combinations of Inductors

-

21.8 A Series LR Circuit

-

21.9 Energy stored in a magnetic field

-

21.10 A Parallel LC Circuit

-

21.11 Mutual Inductance

-

21.12 An Ideal Transformer

-