

EITN80 Electrodynamics

Course information

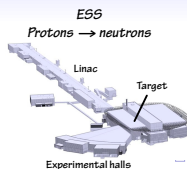
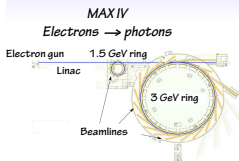
- 7.5 credits, vt2
- Theoretical lectures and computer sessions
- Computer labs using Comsol Multiphysics
- Book: D. J. Griffiths *Introduction to Electrodynamics*

Applications

- Microwave systems
- Microwave resonators
- Particle accelerators
- Synchrotron radiation

Learn about

- Maxwell's equations
- Waveguides and microwave cavities
- Scalar and vector potentials
- Radiation from accelerating particles
- Special relativity
- Relativistic motion of particles in electromagnetic fields



ETEN10 Antenna Technology

Course information

- 7.5 credits, ht2
- 2 lectures and 1 problem solving class (or computer exercise) per week.
- 3 laboratory sessions

Learn about

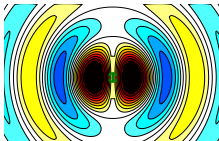
- Radiating EM fields
- Antenna analysis and parameters
- Arrays and beam forming
- Measurement techniques

Applications

- Communication: mobile phones, 5G, IoT, satellite
- RFID
- Radar
- Radio astronomy

Design, build, and test

- Design your antenna
- Simulate and improve
- Build, measure and improve
- Measure and communicate



EITN90 Radar and Remote Sensing

Course information

- 7.5 credits, vt1
- Theoretical lectures and practical workshops
- Labs using simple and advanced radars
- Examination by designing a radar system for a specific application

Learn about

- Radar system blocks
- Wave propagation
- Scattering theory
- Detection algorithms
- Stealth technology

Applications of radar

- Speed measurements using Doppler effect
- Weather monitoring
- Air traffic control
- Remote sensing of Earth and planets
- Gesture recognition

PRINCIPLES OF MODERN RADAR

BASIC PRINCIPLES



Mark A. Richards, James A. Scheer, Wilbur A. Holm (Editors)

