EI3350 Magnetic Hysteresis 8.0 credits

Magnetisk hysteresis

Course syllabus for EI3350 valid from Spring 13

This is a translation of the Swedish, legally binding, course syllabus.

Grading scale:
Education cycle: Third cycle

Intended learning outcomes

The aim of the course is to render comprehensive knowledge about current magnetic hysteresis models. Another goal is to the accomplish knowledge to select, apply and assess the appropriate hysteresis model in different applications of magnetic materials.

Course main content

- The Preisach model
- The Jiles-Atherton model
- The Bertotti model
- The Bergqvist model
- Implementation and use of a selected model
- Assesmemt of the used model

Disposition

Self studies, Seminars, software exercises, project work , presentations of project, homework problems, written report

The written report should comprise a background and introduction of the topic of the course.

The different hysteresis models should be described and explained. In the report also an example of a computer implementation and application of a selected model should be given.

Language of instruction

Language of instruction is specified in the course offering information in the course and programme directory.

Eligibility

The participant must a registered PhD student in the program of Electrical Engineering

Literature

G. Bertotti: Hysterisis in Magnetism

I. Mayergoyz: Mathematical models of hysteresis

Examination

Requirements for final grade

- Oral presentation at a seminar at KTH or at a conference/symposium outside KTH
- Approved project report