

Neutron scattering methods for materials research

Time: 20 - 24 September, 2010

Place: Physics Department, Institute for Energy Technology, Kjeller, Norway
All lectures will take place in the Auditorium.

Literature: Handouts from the lectures

Program

Monday 20 September

- 10.30-10.45 Arne Skjeltorp: Introduction – information about the course, general information about IFE, etc.
- 10.45-12.15 Geir Helgesen: Introduction to scattering of neutrons
- 12.15-13.00 Lunch
- 13.00-14.00 Visit to the JEEP II reactor
- 14.15-15.00 Bjørn Hauback: Diffraction methods – general introduction
- 15.15-16.00 Magnus Sørby: Neutron powder diffraction

Tuesday 21

- 09.15-10.00 Magnus Sørby: Neutron powder diffraction (continued)
- 10.15-12.00 Kenneth Knudsen: Small angle neutron scattering
- 12.00-13.00 Lunch
- 13.15-15.00 Niina Jalarvo (SMN, UiO): Inelastic and quasi-elastic scattering
- 15.15-16.00 Bjørn Hauback: Neutron diffraction for studies of hydrogen storage materials

Wednesday 22

- 09.15-10.00 Sverre Hval: Nuclear reactors and neutron production
- 10.15-10.35 Sabrina Sartori: Application of SANS for H₂-storage materials (seminar)
- 10.35-11.00 Henrik Mauroy: Neutron scattering from electrorheological suspensions (seminar)
- 11.00-16.00 Laboratory projects – incl. lunch break

Thursday 23

- 09.15-10.00 Klaus Lieutenant: Modelling of neutron instrumentation on computers
- 10.15-11.00 Magnus Sørby: The Reversed Monte-Carlo Method
- 11.00-16.00 Laboratory projects – incl. lunch break

Friday 24

- 09.15-14.00 Laboratory projects – incl. lunch break
- 14.15-16.00 Summary, discussion and evaluation of this course

Laboratory projects: (the project texts will be distributed the first day)

1. Small angle neutron scattering (SANS)
Responsible: Kenneth Knudsen and Henrik Mauroy
2. Neutron powder diffraction (PUS)
Responsible: Magnus Sørby
3. Neutron scattering and transmission/absorption of neutrons (DIFF)
Responsible: Geir Helgesen and Matti Knaapila

Exam: Approved reports from the projects

Last date for submitting the laboratory project reports: 1 October 2010

Laboratory projects groups:

	Wednesday 22 September	Thursday 23 September	Friday 24 September
Group A	SANS	PUS	DIFF
Group B	DIFF	SANS	PUS
Group C	PUS	DIFF	SANS