

Welcome to the ADINE project workshop in Sweden on 28 October

In the morning you have the opportunity to get to know the power system research of IEA, and in the afternoon you will hear about demonstrations and results of the ADINE project.

POWER SYSTEM RESEARCH AT IEA IN LUND

Lunds Tekniska Högskola, M-building, Ole Römers väg 1, Lund

- 10.00 Welcome
Olof Samuelsson, Lund University
- Overview of power system research at IEA
Poster presentations of power system research projects
- 11.45 Walk to IDEON for lunch and ADINE workshop

ADINE WORKSHOP

IDEON Science Park, Beta building, Scheelevägen 17, Lund

- 12.00 Lunch
- 13.00 Welcome
Olof Samuelsson, Lund University
- ADINE overview
Sami Repo, Tampere University of Technology
- Network protection and fault management
Matti Kärenlampi, ABB Distribution Automation
- Coordinated voltage control of medium voltage network
Sami Repo, Tampere University of Technology
- Voltage control with microproduction
Olof Samuelsson, Lund University
- 14.30 Coffee
- 15.00 Power quality improvement with new generation STATCOM
Ralf Jessler, Alstom (former Nokian Capacitors GmbH)
- The Active Network Management System
Sami Repo, Tampere University of Technology
- Discussion
- 17.00 End of workshop

Workshop registration: <http://www.adine.fi> → Workshops → Sweden 28 October 2010.

Please, register at latest by 18th October, 2010. The workshop is free of charge.

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Map: http://www.lth.se/fileadmin/lth/kontakt/images/campuskarta_stor.gif.

ADINE project

ADINE project develops new methods for the electric distribution network management including distributed energy resources (DER). When the distribution network is managed according to the ANM method the interactions of different active network devices, like generation units and reactive power compensators, can be planned and controlled to benefit the operation and stability of the network. With proper interaction of devices the overall system performance can be improved from presently used practices. The new methods for planning and control developed in the project are maximising the use of existing electricity networks and reduces the need for installing new power lines. The project provides better understanding of the potential benefits and problems when different DER units are in active interconnection and participating in the management of the network.

To make Active Network Management possible, a set of technical solutions are developed and demonstrated in real-life environment. The ANM method needs technical solutions such as protection, voltage and reactive power control and planning and information systems of networks. The project develops and demonstrates:

WWW.ADINE.FI

Protection of distribution network including DG

- New protection devices
- Application of communication based relays at distribution networks
- Fault location with high earth fault resistance and influence of DG
- Coordinated protection planning on adopt the easy interconnection of DER

Voltage control of distribution network including DG

- Droop control of as a plug-and-produce solution for DER interconnection (small-scale microturbine)
- Centralized voltage control of a medium voltage network

New-generation medium voltage STATCOM

- Capable of filtering harmonics, eliminating flicker, compensating voltage dips, compensating reactive power, improving recovery of the network during line fault and controlling the voltage level of the distribution network

The network behaviour before and during the demonstration as well as the operation of technical solutions are monitored. In the final stage of the project the actual controllers and monitored data from the demonstrations of technical solutions are taken into a combined real-time simulation environment to study the behaviour of network and interaction of the demonstrations. The final ANM method is defined according to findings and conclusions based on these simulations.