

PROCEEDINGS

1st International Workshop on

Integration of Solar Power into Power Systems



24 October, 2011, Aarhus, Denmark

Organized by
Energynautics GmbH
(Germany)



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09:00 – 11:00 / 24 October 2011 / Room Suecia / Discussion leader: Thomas Ackermann,
(Energynautics, Germany)

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J. C. Boemer, K. Burges (Ecofys Germany, Germany), P. Zolotarev, J. Lehner (University of Stuttgart, Germany), P. Wajant, M. Fürst (EnBW, Germany), R. Brohm (BSW-Solar, Germany), T. Kumm (VDE FNN, Germany)

Operational Impact of High Solar Penetrations in the Western U.S.

N. Miller (GE Energy, USA), K. Clark (NREL), G. Jordan (Consultant to GE Energy, USA), Z. Gao (GE Energy, USA), D. Lew (NREL)

Characterisation and Integration of High Penetration Solar Power in Australia - A Solar Intermittency Study

S. Sayeef, T. Moore, S. Percy, D. Cornforth, J. Ward, D. Rowe (CSIRO, Australia)

Photovoltaic Energy: Methods Developed by RTE to Facilitate Integration of this Production

E. Neau (RTE, France)

Session 2a: Modeling and Integration Issues

11:30 – 13:00 / 24 October 2011 / Room Suecia / Discussion leader: Charles Smith (UWIG, USA)

Considerations on the Modeling of Photovoltaic Systems for Grid Impact Studies

V. Čuk, P. F. Ribeiro, J. F. G. Cobben, W. Kling (TU Eindhoven, the Netherlands),
F. R. Isleifsson, H. W. Bindner (Risø DTU, Denmark), N. Martensen (Energynautics, Germany), A. Samadi, L. Söder (KTH, Sweden)

Wind Power Integration Case Compared to Solar Power Integration

B. Vet, G. Dekker, P. Raats, E. De Jong (KEMA, the Netherlands)

Voltage Stability Issues in a Distribution Grid with Large Scale PV Plant

A. R. Pérez, A. Marinopoulos, M. Reza, K. Srivastava (ABB Corporate Research, Sweden),
D. Van Hertem (KULeuven, Belgium)

Calculation of Harmonic Current Content in PV Power Plants Based on Single Inverter Data

A. Constantin, R. D. Lazar, J. Dannehl, S. B. Kjær (Danfoss Solar Inverters, Denmark), M. Ibsch (GL Garrad Hassan, USA)

Session 2b: Solar Forecasting

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Solar Power Forecasting Performance – Towards Industry Standards

V. Kostylev, A. Pavlovski (Green Power Labs, Canada)

Weather Class Depending Combinations of Solar Power Forecasts – Operational Experiences

J. Schmelter, M. Lange, U. Focken (energy & meteo systems, Germany)

Forecasting DNI and GHI Based on the WRF Model: An Evaluation Study in Andalusia (Southern Spain)

V. Lara Fanego, J. Ruiz Arias, A. D. Pozo Vázquez, F. J. Santos Alamillos, J. Tovar Pescador,
S. Quesada Ruiz (University of Jaén, Spain)

Solar Ramping Distributions over Multiple Timescales and Weather Patterns

B.-M. Hodge, M. Hummon, K. Orwig (NREL, USA)

Session 3a: Integration Issues as well as CSP

14:00 – 15:40 / 24 October 2011 / Room Suecia / Discussion leader: Jens Bömer (Ecofys, Germany)

Integration of Photovoltaic Systems with Voltage Control Capabilities into LV Networks

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Estimation of Maximum Allowable PV Power Connection to Low Voltage Residential Networks: A Case Study of Braedstrup

E. Demirok, D. Sera, R. Teodorescu (Aalborg University, Denmark)

Smooth Integration of CSP Plants in Power Systems

J. Usaola (University Carlos III Madrid, Spain)

Molten Salt Concentrating Solar Plants: their Potential Contribute to a Better Grid Integration of Solar Power

M. Falchetta (ENEA, Italy)

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F. Santjer (DEWI, Germany)

Disadvantages of Non-optimal Implementations of Power Reduction during Over-frequency Events

M. Wilch (TÜV NORD CERT, Germany)

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M. Nicolosi, C. Nabe (Ecofys, Germany)

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I. T. Theologitis, E. Tröster, T. Ackermann (Energynautics, Germany)

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Smart Integration of Photovoltaic Power Systems on the Island of Bornholm

G. Yang, J. Østergaard, S. B. Kjær, A. Constantin, H. P. Ballegaard, R. D. Lazar, U. Borup, C. Stephansen, M. Mattesen, J. B. Sørensen (DTU, Denmark)

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J. Widén (Uppsala University, Sweden)

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M. Katsanevakis, E. Demirok, D. Sera (Aalborg University, Denmark)

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I. Gal, M. Q. Nguyen (Schneider Electric, France)

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G. He, K. Feng, G. Li, W. Bao, W. Shi, W. Zhao (CEPRI, China)

Solar Data Inputs for Integration and Transmission Planning Studies

K. Orwig, M. Hummon, B.-M. Hodge, D. Lew (NREL, USA)

Management of Photovoltaic Power Generation with a Vanadium RedOx Flow Energy Storage System

F. Bourry, P. Besson (INES-CEA L2S, France), N. Martin (INES-CEA LSE, France), X. Le Pivert (INES-CEA L2S, France), M. Perrin (INES-CEA LSE, France)

Online Short-term Solar Power Forecasting

P. Bacher, H. Madsen (DTU, Denmark), H. A. Nielsen (ENFOR, Denmark)

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J. Ma, S. Lu, P. V. Etingov, N. A. Samaan, R. P. Hafen, Y. V. Makarov (PNNL, USA), V. Chadliev (NV Energy, USA)

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W. Du (TU Delft, the Netherlands)