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5G Network Slicing as an Enabler for Smart Distribution Grid Operations

H. V. Kalpanie Mendis, Poul Einar Heegaard, Katina Kralevska

Norwegian University of Science and Technology (NTNU), Norway

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Seyede Fatemeh Hajeforosh, Math Bollen, Lars Abrahamsson

Luleå University of Technology, Sweden

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A novel method to characterize variability of photovoltaics power output

Laurène Parent¹, Delphine Riu², Anne-Catherine Favre³, Tuan Quoc TRAN¹

¹National Institute of Solar Energy, France. ²Univ. Grenoble Alpes, CNRS, Grenoble INP, G2Elab 38000 Grenoble, France. ³Univ. Grenoble Alpes, Grenoble INP, IGE, France

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Real Time detection and localization of self extinguishing defects on a MV network

Nicolas Grégis¹, François Cochet², Jaume Benoit¹, Nicolas Ravot¹, Gabriel Gobat², Philippe Desbats¹

¹CEA TECH - LIST, France. ²Nexans Suisse SA, Switzerland

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David Fonseca⁴, Diogo Lopes³, Rita Pires¹, José Terras¹, José Sousa¹, Gordon Paton⁴, Monica Pintado⁵

¹EDP Distribuição, Portugal. ²GE Power, United Kingdom. ³GE Power, Spain

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Fault Zone Identification of PMU-Enabled Distribution Systems

Anton Domini Sta. Cruz¹, Michael Angelo Pedrasa¹, Roel Dobbe²

¹University of the Philippines, Philippines. ²University of California, Berkeley, USA
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Protection and Earthing Requirements of Low Voltage AC and DC Distribution Networks Interfaced by Smart Transformers

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¹Department of Electronic and Electrical Engineering, University of Strathclyde, United Kingdom. ²WSP, United Kingdom. ³SP Energy Networks, United Kingdom

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Digital System Protection Design – A new Toolchain for Protection System Automation

Georg Janick Meyer¹, Johann Jaeger¹, Maximilian Dauer², Christian Romeis², Jan Henzgen², Benjamin Braun³, Nils Schäkel⁴, Maximilian Stumpe⁵

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Big datasets placement in Smart grid Ecosystems

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2022

Managing local flexible generation and consumption units using a quota-based grid traffic light approach

Katharina Volk, Linda Rupp, Christian Lakenbrink, Kilian Geschermann

Netze BW GmbH, Germany

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Manswet Banka, Daniel Contreras, Krzysztof Rudion

Institute of Power Transmission and High Voltage Technology, University of Stuttgart, Germany

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David Tuffery, Stephen Quinn, Oliver Spink, Clive Goodman

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Black Start from Distributed Energy Resources

Colin Foote, Neil Miller

SP Energy Networks, United Kingdom
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Andrei Morch1, Gianluigi Migliavacca2, Ivana Kockar3, Han Xu3, Julia Merino Fernández4, Helena Gerard5
1SINTEF Energy Research, Norway. 2RSE SpA, Italy. 3University of Strathclyde, United Kingdom. 4TECNALIA, Spain. 5VITO, Belgium

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Reza Bazyar1, Majid Valizadeh2
1Tabriz Electric Power Distribution Company, Iran, Islamic Republic of. 2Ilam University, Iran, Islamic Republic of

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Vaclav Vycital1, Michal Ptacek1, Petr Toman1, David Topolanek1, Jiri Drapela1, Juan Zamphiropolos2
1Brno University of Technology, Czech Republic. 2E.ON Distribuce, Czech Republic

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A Camera-based Tracking System for Distribution Network Inspection Based on Unmanned Aerial Vehicles
Zhai Ruicong1, Chen Hao1, Zhang Feng1, Xu Zhihai1, Yang Chengcheng2
1Guangdong Power Grid Co., Ltd, China. 2Wuhan huzoho Technology Co., China

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Improved Control System for Hybrid AC/DC microgrids considering Transient Short Circuit Faults
Meisam Sadeghi1, Mojtaba Khederzadeh2, Sheida Mohammadzadeh Jasour1
1Tabriz Electric Power Distribution Company, Iran, Islamic Republic of. 2Shahid Beheshti University, Iran, Islamic Republic of

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1Tampere University of Technology, Finland. 2Police University College, Finland. 3Finnish National Rescue Association, Finland

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¹VSL, Netherlands. ²NPL, United Kingdom. ³Strathclyde University, United Kingdom. ⁴Strathclyde University, USA
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Robert Pollak, Javad Fattahi, Henry Schriemer, Rohit Rana

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¹Jemena, Australia. ²AusNet Services, Australia. ³University of New South Wales, Australia. ⁴State Grid International Development, China

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¹RWTH Aachen, Germany. ²E.ON, Germany

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Euan Norris¹, Laura Kane², Euan Davidson²

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¹Guangdong Grid Company Power Dispatching Control Center, China. ²Datang Xianyi Technology Co. Ltd, China. ³Hunan University, China

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Chen Jun¹, Li Shiming², Huang Huihong¹, Wang Yong¹, Zheng Jiehui²
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¹Suzhou Power Supply Company, State Grid Corporation of China, China. ²Glasgow Caledonian University, United Kingdom. ³Nantong University, China. ⁴Nanjing University of Aeronautics and Astronautics, China. ⁵Wuhan University, China

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University of Sannio, Italy

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Martin Zimmerlin, Ovidiu Popa, Lukas Held, Michael Suriyah, Thomas Leibfried

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Nicola Gast¹, Tamara Schröter¹, Klabunde Christian¹, Jari Rossberg², Martin Wolter¹

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Study on Voltage Stability Limit of 6.6 kV Distribution System by Reverse Power Flow From a Group of Photovoltaic Generators

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¹North Cairo for Electricity Distribution Company, Egypt. ²Faculty of Engineering at Shoubra - Benha University, Egypt. ³Egypt Electricity Holding Company, Egypt
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Value of energy storage behind-the-meter of distributed renewable generators

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A Smart Contracting Framework for Aggregators of Demand-Side Response

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Sophia Politopoulou¹, Antonis Spyropoulos¹, Paul Wilczek², Jan Bocora³, Jan Budke⁴, Manuel Martinez⁵

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A risk-based framework to optimize distributed generation investment plans considering incentive reliability regulations

Mohammad Jooshaki², Hossein Farzin², Ali Abbaspour¹, Mahmund Fotuhi-Firuzabad², Matti Lehtonen³

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The Effect of Incentive Design changes on Distributed Energy Resources’ Adoption Patterns and Distribution Expansion Plan Robustness

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Two Years of Battery Energy Storage System performance in automatic islanding in the Portuguese MV network

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Lukas Kalisch, Dirk Lehmann, Hendrik Vennegeerts, Albert Moser

FGH e.V., Germany

A smart grid alternative to network reinforcement for HV/MV substations constraints: Active power curtailment

Leticia De Alvaro Garcia, Xavier Debold, Mathieu Gondolo

Enedis, France

Electricity tariff design for future distribution networks

Ouma Bosaletsi, John Van Coller

University of Witwatersrand, South Africa

Electric Vehicles as flexibility providers for distribution systems. A techno-economic review.

Felipe Gonzalez-Venegas¹³, Marc Petit², Yannick Perez³, Paul Codani⁴

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Uniform Web of Things based Access to Distributed Energy Resources via Metadata Registry

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Adaptive Energy Resource Management System – scaling out microgrid based solutions in electrical power systems

Luís Marques, Filipe Campos, Marta Ribeiro, Alberto Bernardo

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The EU-SysFlex French industrial-scale demonstrator: coordinating distributed resources for multi-services provision

Ye Wang1, Hugo Morais1, Bettina Lenz2, Victor Gomes3, Thomas Godleowski3, Héloïse Baraffe1

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Net Metering in Brazil: Setting the Scene for the Regulatory Framework Review

João Marcelo Cavalcante de Albuquerque, Daniel Vieira, Hugo Lamin

Brazilian Electricity Regulatory Agency – ANEEL, Brazil
A centralized control for the operation of low voltage distribution networks with multiple Distributed Energy Resources

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Provision of flexibility services through energy communities

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Conditions for increasing DER anti-islanding protection frequency range

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Real case islanding detection on the Distribution network by using microPMU units

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Smart hubs – DC interconnection and management of PV, EV and ESS

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Agent-Based Simulation for Electric Vehicle Aggregators’ Bidding and Pricing Strategy Considering Reserve Provision

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Energy storage capacity configuration of electric vehicle charging station with PV under peak shaving mode

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Impact and Value of Energy Storage on a High-DER Penetration Distribution Feeder in Southern California
Jouni Peppanen1, Jorge Araiza, Jr2, Ramakrishnan Ravikumar1, Tanguy Hubert1, Giovanni Damato1, Loic Gaillac2, Matthew Kedis2
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Blockchain-based self-consumption optimization in local energy communities
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Visual Display of Variability and Adequacy Requirements for VRE-Dominated Electricity Systems
Frank Wiersma
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Experience from Deployment of Battery Storage in Czech Distribution Grid
Michal Jurik, Martin Kurfiřt, Petr Vaculík
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Technical Solutions for Increasing DER Hosting Capacity in Distribution Grids in the Czech Republic in Terms of European Project InterFlex
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¹China Southern Power Grid Corp. Limited, China. ²Tsinghua-Berkeley Shenzhen Institute, Tsinghua University, China
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Incentive scheme for efficient grid utilization in the Swedish revenue cap regulation from 2020
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Grid and Market Hub Platform to Enable a Data-driven Smart Grid Economy
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Augmented Reality You Can Use Today

Primož Sevčnikar
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DSO role in the deployment of Smart Cities solutions: the case of the Lisbon Urban Sharing Platform as a service provider

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