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10TH EDITION

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Andrew GARNER (1), Georg BRANDSTÄTTER (1), Clemens KORNER* (1), Gerhard JAMBRICH (1), Carolin MONSBERGER (1), Michael NIEDERKOFLER (2), Andreas SCHNEEMANN (2), Stefan STRÖMER (1), Yannick WIMMER (1)
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Mehdi BIGDAD*, Alexandre BACH, Trung Dung LE, Marc PETIT
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Carlos CHAPARRO*, Vincent DEBUSSCHERE, Marie-Cécile ALVAREZ-HERAULT, Jérôme BUIRE
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1455 *Operational Risk Quantification for Preventive Control in Low Voltage Grids with Distributed Energy Resources*

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Alexander PETERS*, Julian BIGALKE, Simon BRAUN, Luka ALHÄUSER CISNEIROS E FARIA, Andreas ULBIG
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Jacqueline TRICOT, Sofiane BOUIBEB, Paul PIKE*, Sébastien DELBOS
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1464 *Addressing Distribution Network Planning: A Case Study in Northern Italy*

Davide FRATELLI* (1), Aleksandar DIMOVSKI (1), Corrado Maria CAMINITI (1), Matteo SPILLER (1), Marco MERLO (1), Francesca CRAMAROSSA (2)
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Dominik J. STORCH* (1), Simon NIEDERLE (2), Christoph J. STEINHART (3), Michael KREISSL (3), Christian GUTZMANN (3), Maik GÜNTHER (4), Michael FINKEL (1), Rolf WITZMANN (2)
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Jacob LYNCH* (1), Martin CATON (2), Edward CORR (3), Andrew FORSTER (4), Peter LANG (5)
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Luciano MASOTTI* (1), Michele PASTORE (1), Francesco CAPPUCCIO (2), Ehsan POURHOSSEINI (2), Matteo BRESCHI (2), Tariq KHAN (2), Davide Stefano PICCAGLI (2)
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Joel SEPPÄLÄ, Marko JUNTUNEN*
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Charlotte WEITZEL* (1), Prof. Dr. David ECHTERNACHT (2), Christoph CHRISTOFOLINI (3), Dr. Xiaohu TAO (3)
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Andrew URQUHART* (1), Iro PSARRA (2), Neville RICHARDS (2), Thomas WILSON (2), Murray THOMSON (1), David PENFOLD (3)
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Cleberton REIZ*, Everton ALVES, Clara GOUVEIA, Micael SIMÕES, Jorge PEREIRA
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Farah NASR*, Nikita KIRSCH, Simon BRAUN, Andreas ULBIG
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Giuditta PISANO*, Adriano CASU, Fabrizio PILO
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Nina ŠTUMBERGER*, Rosa TERKOWSKI, Simon BRAUN, Andreas ULBIG
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1: VIVAVIS AG, Germany; 2: University, Siegen; 3: Albstadt-Sigmaringen University

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Johannes HEID* (1,2), Jakob SEESE (2), Angela Maria GAMBA CARDENAS (1,2), Andrea SCHOEN (2), Nils BORNHORST (1), Martin BRAUN (1,2)
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Christophe CHAUSSIN*, Alaa BARNAT, Gilles CORDIER, Axelle COUSINOU, Mehdi EL KANSOULI, Laurine HAMARD, Yue HONG, Iyadh KIOUA, Tsiry RASENDRASOA, Maxence ROBAUX, Côme STEPHANT, Raphaël TEBOUL
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Gertjan KOK* (1), Helko VAN DEN BROM (1), Ties VAN DER HEIJDEN (2), Bart PLEITER (3)
1: VSL B.V.; 2: TU Delft; 3: Alliander N.V.

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Department of Electric Power Engineering, Faculty of Electrical Engineering and Informatics Budapest University of Technology and Economics

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University of Cagliari, Italy

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University of Cagliari, Italy

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Marius ENGEBRETHSEN*, Wojciech PORADOWSKI, Rune JACOBSEN, Einar Kirkhus NILSEN
REN, Norway

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Adam BABŚ*, Tomasz SAMOTYJAK
Institute of Power Engineering, Poland

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Sharon BOAMAH* (1), Priya MITTAL (1), Michel CARABALLO (2), Janise MCNAIR (1), Arturo BRETAS (3)
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Jacob Mathew KARUMAMKOTT*, Sinéad HANLEY, Cristina COLEMAN KENNY
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Lucas LAFAYE* (1), Remy RIGO-MARIANI (1), Vincent DEBUSSCHERE (1), Marie-Cecile ALVAREZ HERAULT (1), Leonard BACAUD (2), Jeremy HIRSCH (2), Philippe CROS (2), Pierre GRANGER (2)
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Erwan CHIBOUT*, Simon CAMAL, Georges KARINIOTAKIS
Mines Paris PSL, France

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Bálint HARTMANN*, Balázs Ágoston TURÓCZI, Péter SŐRÉS, István VOKONY
Budapest University of Technology and Economics, Hungary

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Bálint HARTMANN*, Bence BERECZKI, Péter SŐRÉS, István VOKONY
Budapest University of Technology and Economics, Hungary

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Thanh Kha TRAN*, Raphael GUFFOND, Lina RUIZ, Samuel GRIOT
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Alfred EINFALT* (1), Andreas FERNBACH (1), Gerhard ENGELBRECHT (1), Juliana KAINZ (1), Daniel HAUER (1), Sabine KUBICEK (2), Roland ZOLL (2), Thomas POLL (2)
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Anne VAN DER MOLEN*, Ranko STOJAKOVIC, Sjors VAN DER HEIJDEN, Mark SCHEER, Ruurd LAMMERS, Stefan VAN DER MAAT
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Hiroyuki YOSHIDA*, Shinichi DOI, Toshiki ODA
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Janne LEMINEN* (1), Janne ALTONEN (1), Saku SIERMALA (1), Mika TAUSA (1), Hanna-Mari AALTO (2), Petteri KANGASLUOMA (2)
1: ABB Oy, Finland; 2: Elenia Verkko Oyj, Finland

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Tongxun WANG*, Wenxiao MA, Dandan FENG, Zhikai WANG, Zhaoliang LI, Yang WANG
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Jeffrey WISCHKAEMPER*, B. Don RUSSELL, Carl BENNER, Karthick MANIVANNAN
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Jano SCHUBERT* (1,2), Edwin MORA (1), Mathias DUCKHEIM (1), Stefan NIESSEN (1,2)
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Thibaut THÉATE*, David VANGULICK
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Carina LEHMAL*, Peter DOLLFUSS, Josef VOGEL, Zeljko BOBAR
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1200 *From Concept to Reality: How Sensorization and Automation Are Transforming MV & LV Networks*

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Takahisa HAYASHI* (1), Yuta NAKAMURA (1), Takao TOKUHARA (1), Toshiki ODA (1), Masahiro TANAKA (2), Takenori KOBAYASHI (2), Tomokazu MORITA (3)
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Minna KURONEN*, Susanna KARMELA
Helen Electricity Network Ltd, Finland

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Ramy ALI*, Ronan MEERE, Edmund O'CARROLL
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1225 *Increase In Grid Utilisation & Capacity Through Impedance Reduction & Voltage Control Using Capacitive Transfer System Cable*

Ashkan Daria HAJILOO*, Karl DE JONG, Charles LUCAS-CLEMENTS, Jorge VIÑUELA PÉREZ
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1235 *Applications of Machine-Learned State Estimation in Low-Voltage*

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1236 *Identifying And Mapping Shared Service Cables Using Artificial Intelligence For The Adoption Of Low Carbon Technology On The LV Network Of Ireland*

Amandeep SINGH*, Sadaf ZAHEER, Tara NÍ REACHTAGÁIN, Jack HERRING
ESB, Ireland

1241 *Dynamic Line Rating in Practice: Comparing Sensor-Based and Sensorless Methods on the Portuguese Grid*

Davide RAPOSO*, André NEVES, Ana Carolina MONTEIRO, Diana MACEDO, David CARVALHO, Mariana CÔRTE-REAL
E-REDES, Portugal

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Emma JUSERIUS*, Anders JOHNSSON
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Jens HÖNEN*, Bernd SEIFERT, Florian GUTEKUNST
TransnetBW GmbH, Germany

1263 *Pilot for Model-Free Active Flexibility Management for Low-Voltage Grids According to German Regulation (§14a EnWG)*

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1265 *Interoperable Digital Twin Data for Electrical Distribution Grids*

Sebastian PETER* (1), Bharathwajanprabu RAVISANKAR (1), Kavya MADA (2), Felix PROBST (3), Dennis SCHMID (3), Fabian REINDL (4), Gerhard MEINDL (4), Ron BRANDL (2), Marco JUNG (2), Stefan KIPPELT (3), Rajkumar PALANIAPPAN (1), Ulf HÄGER (1)
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1267 *Tripling Capacity Through Voltage Regulation On Long MV Feeder*

Eilert BJERKAN (1), Reidar TJELDHORN (1), Alexander KRISTENSEN* (1), Morten SJAAMO (2), Simon WEBER (3)
1: Magtech AS; 2: Føie AS; 3: Maschinenfabrik Reinhausen GmbH

1269 *QUEST – An Overarching System Control Solution: Live Trials & Digital Twin Validation*

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1270 *Overhead Line Fault Location on 11kV Networks Using a Common Disturbance Information Platform*

Greg SHIRLEY* (1), Samuel JUPE (2), Andrew FORSTER (2), Paul MORRIS (1), Mashood TAHIR (2)
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1271 *EleXsys dSTATCOMs in the E-REDES LV Network: Field Results and Insights for Advanced Volt/Var Control*

João BARBOSA* (1), Mark HIBBERT (2), Shane GOODWIN (2), Dr Edward BURSTINGHAUS (2), Pedro FERREIRA (3)
1: E-REDES, Portugal; 2: Stara Smart Grid; 3: EDP Inovação

1273 *Stochastic Multi-Asset Optimisation for Energy Strategic Planning: a Study Case at Brussels Airport*

Mattia D'ANDOLA* (1), Ludéric VAN CALCK (1), Nichita BOZGA (1), Julien VANDEBURIE (2), Thomas WEHENKEL (2), Martin JASIENSKI (3), Frederik VAN CLEEMPUT (3), Pierre-François CROUSSE (1)
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1274 *Lessons Learned from an innovation department at a Belgian DSO*

Arnaud ROUFFIGNON*, Thomas BUISSERET, Thibaut THÉATE, David VANGULICK
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1275 *Potential For Reducing Redispatch Volumes Through The Use Of Dynamic Line Rating (DLR) And Curative Protection Measures (CRM)*

Paul KROEMER* (1), Antoni CHAJAN (1), Christoph SCHÖNHOFEN (1), Hauke JÜRGENSEN (2), Alexander KROGGEL (2), Matthias RUDOLPH (2)
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1276 *Active Fault Level Management - Development and Delivery*

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1288 *Data Inconsistency In A Century-old Business With Delayed Digitalization: A Daily Algorithm For The Automatic Integration Of Data*

Francisco Javier ROS RAPOSO*, Jacinto JURADO TABARES, Julio Alejandro GONZÁLEZ MEJÍAS, Rubén CARMONA PARDO
Ingelectus, Spain

1290 *Customer Perception of Demand-Side Flexibility Tariffs in Switzerland*

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1291 *Pythia: Implementing Day-ahead Congestion Management In The German LV Grid*

Antonio HERNANDEZ ESPIN* (1), Alexandra KLINGER (2), David BRUMMUND (3), Philippe DE PAUW (1), Bert DE DECKER (1), Koen VANTHOURNOUT (1), Reinhilde D'HULST (1)
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1297 *A Future-Proof Control Architecture for System Operator-Owned Power Electronic Devices in Low Voltage Distribution Networks*

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1300 *Edge-Hosted Virtual Protection Functions: Implementation and Validation of a Docker-Based vIED Using IEC 61850 SV and GOOSE*

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1301 *Algorithm Benchmark for Partial Discharge detection sensitivity in small-scale Medium Voltage Networks*

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1304 *Improving Grid Resiliency on Island-Based Microgrids for Reducing Blackouts in Unplanned Disconnection Events by Using Near-Real-Time Monitoring and Flexible Loads Management*

Matias Ariel KIPPKE SALOMÓN* (1,2), Kristin BOBECK (3), Arne BERLIN (3), Linda-Maria WADMAN (4), Pablo ARBOLEYA (1,2)
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1306 *AI for Predictive Maintenance and Customer Satisfaction Improvement*

Charles GEISMAR*, Caroline EL KHARRAT, Colin THIRARD, Jérémy BESSON
ENEDIS, France

1307 *DIGITECHNETZ – Challenges and Solutions in Implementing a Smart Grid Platform in Real Low-Voltage Distribution Grids*

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1310 *Data-Driven Low-Voltage Grid Operations*

Christoph JÄTZ* (1), Sandrino BENECKE (1), Matthias HANSEN (2), André GEUEKE (2), Nicolas PITTROF (3), Sebastian KUMPFMÜLLER (3), Christian MEFFERT (4)
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1315 *From Hunting Zones to Scale-Up: EDP's Innovation Strategy for Faster Adoptive Solutions in Distribution Networks*

Sofia TAVARES*, Pedro FERREIRA
EDP Innovation, Portugal

1316 *Mitigating Faults in Medium-Voltage Distribution Systems Using Electronic Single-Phase Sectionalizers*

José Afonso ROMANCINI*, Lucas Fritzen VENTURINI, Mateus Netto GUIDI, Willian Alano BATISTA
Celesc Distribuição S.A., Brazil

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1319 *E-REDES Automated Vegetation Management Audit for Distribution Networks Using High-Resolution Satellite Imagery and AI*

Ana LISBOA*, Ricardo BORGES, Artur FIGUEIREDO, Liliana TRINDADE
E-REDES, Portugal

1322 *From Pilot to Real-World Operation: Implementing Remote Curtailment of LV-Connected PV for Regional Constraint Management — Lessons from Enedis Field Trial*

Sasan ROSTAMBEIK TAFRESHI*, Saber LEHATEM, Thomas SCHALLER, Matthieu ANNE
Enedis, France

1324 *Sustaining a National Asset-Risk Methodology: Governance, Alignment and Expertise Transition in Common Methodology v3*

Joanne PEACOCK (1), Landel JOHNSTON* (2), Gavin HOWARTH (3), Linda HULL (4)
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1325 *Data Analytics Implementation and Benefits in a Power Distribution Network –AI Fault Prediction Use Case*

Frantisek KELEMEN* (1), Anna KULMALA (1), Mika LIFFLANDER (1), Parul AGHI (2), Gustavo LEONARDO (2), Kaikong HO (2), Colin SCOBLE (2), Oussama YOUSFI (2)
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1326 *Beyond Smart Meters: The Next Chapter in Smart Grid Innovation*

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MD Raisul ISLAM* (1), Alessandro BOSISIO (1), Gabriele PALUDETTO (2), Carlo TORNELLI (2), Alessandro CIROCCO (3), Fabio LEONARDI (3)
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Wendelin ANGERMANN* (1), Robert SCHÜRHUBER (1), Herwig RENNER (1), Fabian IVOS (1), Thomas WIELAND (2), Maria AIGNER (3), Martin RUHHÜTL (4), David GRUBINGER (5), Christian AMMER (6), Elisabeth HUFNAGL (7)
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1343 *Embedding ESG Performance Into Distribution Network Digitalization: A Strategic Transformation Framework for NEDC*

Mahmood AL KHUSAIBI*, Moosa AL ABRI
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1350 *Non-Intrusive EV Charging Power Estimation for Improved Pseudo-Measurements in Low-Voltage Grid State Estimation*

Eric DÜRHOLT* (1), Markus ZDRALLEK (1), Bastian BAUHAUS (2)
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1359 *Integration Of D-FACTS Devices In Power Flow Studies Of Distribution Networks Using MANA.*

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1375 *Open Integrated IoT Suite To Master The Challenges Of The Energy Transition*

Smaran SUBBAIAH B G*, Martin GOTTSCHALG, Bitan BHATTACHARYA, Erhard AUMANN, Chaitanya BISALE
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1376 *Grid Guardian – The Platform For Long-Term Monitoring of Compensated Network Parameters*

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1378 *Cluster-Based and Regression-Enhanced Forecasting of Day-Ahead Prosumer Demand Schedules in Distribution Systems*

Finn NUSSBAUM*, Joost LINDNER, Anna-Lena STEEN, Payam TEIMOURZADEH BABOLI, Christian BECKER
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1382 *The Monitoring Of The LV Electric Network Within The Realized Self Optimizing Grid (SoG) Concept Of The MV Electric Distribution Network*

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1389 *Analytical Approach To Dynamic Hosting Capacity Assessment In A Distribution System Based On Voltage And Load Time Series*

Kristijan Frano ĆAVAR, Anton MARUŠIĆ, Ivan PERIŠA, Branimir GABRIĆ*, Hrvoje JELIĆ
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1407 *Exploring New Levers Against Upper Voltage Violation Constraint, Medium Voltage Shunt Reactor Investigation Feedback*

Djamel HADBI* (1), Mathieu FERRARIS (2), Jocelyn BOUVIER (1), Dominique LEGRAND (1)
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1408 *VICORE: A Hybrid Real-Time Test Platform for PAC Functions Using Virtualized IEDs in Power Distribution Network*

Reza RAZI* (1), Martin LEGRY (1), Frédéric COLAS (1), Xavier GUILLAUD (1), Van-Hoa NGUYEN (2), Thierry COSTE (2), Nicolas FAVARCQ (3)
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1409 *Feeder Forecast for Proactive Congestion Management in Low-Voltage Grids*

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1410 *Pilot Results on Autonomous Inverter Control for LV Grids*

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1414 *Data Governance for LV Grid Twins_Lessons from Spain and Portugal*

Angel GIMÉNEZ GARCÍA, Iraitz GORROÑO BIKANDI, Haritz ZUBIA URRUTIA*
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1421 *Impact of a Multi-MW Grid-forming Battery Storage System on Grid-connected Distribution Network Stability*

Boyana GEORGIEVA*, Hendrik LENS
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1423 *Detection of Topological Errors in Distribution Networks Using State Estimation Residual Patterns*

Martin CASTIN (1), Alireza BAHMANYAR (1), Adrien LEERSCHOOL (1), Laurine DUCHESNE (1), Adrien BOLLAND (2), Thomas WEHENKEL (3), Simon GERARD* (3), Damien ERNST (2)
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Remi LEBLANC*, Franck WEBER
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1429 *A Unique Collaboration Model for Designing Retrofit Sensor Systems for Magnefix MD4 Switchgears: It's All About People, Product, Process*

Elise MORSKIEFT* (1), Denny HARMSEN (2), Maarten SLOOT (2), Bram POSTHUMA (1), Peter MEIJER (1), Martin BINNENDIJK (1)
1: Eaton; 2: Alliander

1433 *Simulation and Realization of Dynamic Grid Coupling and Network Reconfiguration with Real-Time Grid Condition Monitoring*

Maximilian GERHARD*, Frederik GIELNIK, Michael SURIYAH, Thomas LEIBFRIED
Karlsruhe Institute of Technology, Germany

1439 *Electric Vehicle Hosting Capacity in Low-Voltage Networks Considering the Probability of Concurrent Charging*

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1446 *Dynamic Phase Balancing for Voltage Quality Improvement in LV Networks: Field Trial Results*

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1453 *The Case of the Shunt Reactor in Substation 110/35/20 kV Krk, Croatia*

Ivica RADETIĆ*, Igor VOLARIĆ, Josip ŽUTOLIJA
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1457 *Automated AI-Based Asset Mapping: Lessons Learned From Large-Scale Deployment in Distribution Network*

André SIH*, Thiago CAZES, Rodrigo FERREIRA, Carlos BISCHOFF
Fu2re, Brazil

1461 *Maps of Hosting Capacity for Distribution Networks: Aligning Theoretical KPIs with Strategic Decision-Making Needs*

Tommaso DIECI* (1), Davide FRATELLI (1), Matteo SPILLER (1), Corrado Maria CAMINITI (1), Aleksandar DIMOVSKI (1), Marco MERLO (1), Pierluca PINCIOLLA (2)
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1469 *Proactive Distribution Grid Operation Enabled by Continuous Power Quality Monitoring and Analytics*

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1474 *Qualification of a Data-Driven Grid Modelling Approach for Low Voltage Networks*

Alexandre DELYON*, Pacome ARMAGNAT, Clementine BENOIT, Chloé LUCAS-MONTFORT, Noemi VARGHA
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1481 *Automating Fault Location, Isolation, and Service Restoration in German Distribution Networks: Cost-Benefit Analysis and Lessons Learned from the NETZlabor Allgäu*

Felix STREHLE*, Lukas GROMES, Paul HORN, Christian LAKENBRINK, Miriam BADER
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1482 *Small-Scale DC Grid Demonstration in Port of Funchal*

Pedro COSTA (1,4), Luis RODRIGUEZ (1,4), Pedro NETO (1,4), Diogo REIS (2,3), Anne NIIN (1,4), Lucas PEREIRA (3,4), Hugo MORAIS* (1,4)
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1483 *Enabling Interoperable EV Integration through Protocol Translation: Bridging Smart Charging Infrastructure with Operational Grid Systems*

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1484 *Qualification Of A Data-Driven GIS Enhancement Approach For Low-Voltage Grids*

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1490 *On the Evolution of Reactive Power Demand in Swiss Medium and Low Voltage Networks*

Alexandre MACHER (1), Corrodi YVES (2), David LEHNEN* (2)
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1492 *Fast and Accurate Grid State Estimation Using Physics-Informed Graph Neural Networks*

Corentin TISSIER*, Rafael CARRILLO, Diya ACHI, Pierre-Jean ALET
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1493 *Field Evaluation of a Phase Balancer in Low-Voltage Networks*

Balázs TŐZSÉR*, József, Lehel ZOLTÁNI, István TÁCZI DR.
E.ON Hungary, Hungary

1496 *OptiQU: Coordinated Multi-Level Voltage and Reactive Power Control for Enhanced Voltage Quality and Secure Grid Operation*

Irene HAMMERMEISTER* (1), Eric TÖNGES (2), Nils BORNHORST (2), Johannes HEID (1,2), Gabriela FRITZLER (1), Timo REHWALD (1), Andrea SCHOEN (1), Ronald HALBAUER (3), Jan MESCHEDE (3), Julia HOLL (4), Sina STRAUSSBERGER (4), Andrey LUZHBIN (5), Maximilian Niedhammer (5), Mischa Geiger (5), Aaron Eicker (6), Maurice Raetsch (6), Alfio Spina (6), Johannes Dieplinger (7), Christian Mayer (7), Josef Bayer (8), Thorsten Reske (9), Dominik Hilbrich (1), Michael Kramer (4)
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1503 *Anticipating the Human Impact of AI : A Workshop-Based Approach of transformation at Enedis*

Aude VINZERICH, Melanie CAZES*
Enedis, France

1504 *Automated Consolidation Of Dispersed DSO Data Resources Into A Consistent Digital Twin Of The Distribution Grid*

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1511 *E.ON-Lab: Prescaling The Transformation Of The Power Grid Into A Digital, Flexible, And Intelligent System*

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1520 *Implementation of Real-Time Fault Level Monitoring to Facilitate Decarbonisation Growth*

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1527 *Digital Twin for Future Power and Energy Systems: A Review*

Morteza VAHID-GHAVIDEL*, Sahar SEYYEDEH-BARHAGH, Hannu LAAKSONEN
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1539 *Building a Virtual Power Plant: Providing Ancillary Services and Local Congestion Management with a Large-scale Fleet of Public EV Chargers*

Maud TOUSSAINT SCHURMANS*, Jelle GARCET, Louis SOKAL, Tommaso DIFONZO
Engie Laborelec, Belgium

1542 *A Microservice-Oriented Integration Layer for LV Management Tools*

Gil SAMPAIO (1), Jacinta FERREIRA (1), José SOUSA (1), João FERNANDES (2), Raquel FIGUEIREDO (2), José OLIVEIRA* (2)
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1544 *Generating Insights for Low-Voltage Distribution Grids from Per-Phase Smart Meter Data*

Mattia SECCHI* (1), Anton HØYER TROELSEN (1), William Ancher KROGSGAARD AMMENTORP (1), David Valentin TANASE (1), Lunodzo MWINUKA (1), Christian FOTTELER (2), Henriette DYHR RAHBEK (3), Carsten BUHL NIELSEN (3), Kai HEUSSEN (1)
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1548 *A Case Study on the Operation of the Change Simulator for the Prevention of Line Electrical Distributon Due to Worker's Negligence*

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1554 *Integrating Data Engineering And Data Science Tools To Enhance Distribution Network Performance*

Bruno OLIVEIRA*, Tauan OLEA
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1560 *A Fault Current Limiting Circuit Breaker Pilot Installation*

Jesper MAGNUSSON* (1), Johan NOHLERT (1), Thomas ERIKSSON (1), Martin KROPF (2)
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1562 *Field Validation and Perspective on Distribution-scale Grid-Forming Battery Storage for Synthetic Inertia*

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1565 *Remote Protection for Digital Substations – Piloting Experiences and Analysis*

Anna KULMALA* (1), Ontrei RAIPALA (1), Petri HOVILA (1), Henry NIVERI (1), Konsta ANTIKAINEN (2), Tomi ÖSTER (3)
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1566 *Proactive Detection of Unauthorized Cryptocurrency Mining Loads in Distribution Networks Using Integrated Electrical and Privacy-Preserving Telecom Data*

Abdolhossein ESMAEILZADEH*, Habib allah RAVAGHI ARDABILI, Rashin ILKA, Ali KOMASI, Reza KORDBACHE
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1568 *Implementing And Performance Of Innovative Grid Technologies Increased Grid Utilization And Faster Grid Development For Smart Grid Distribution Networks*

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1569 *Deployment of Innovative Operating Technologies to Mitigate LV Congestions: Identified Field Problems and Solutions*

Ane MARTÍNEZ*, Alena ULASENKA, Gorka PUENTE, Luis DEL RÍO, Álvaro ORTIZ, Santiago GUTIERREZ
Ormazabal, Spain

1571 *Embedding Flexibility-Driven Innovation in Distribution System Planning*

Gian Giuseppe SOMA*, Gianni CELLI, Fabrizio PILO
University of Cagliari, Italy

1573 *Prediction-Based Control of a Building-Integrated DC Microgrid with HESS*

Daniela ESER*, Erik WOEHR, Loris SCHMIT, Jonathan HUFGARD, Michael SURIYAH, Thomas LEIBFRIED
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1574 *LV outage Management in ADMS*

François CHEVALIER, Tom CARRON*, Henri MEURÉE
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1577 *Reduction of the Impact of Power Measurement Errors on Grid Parameter Estimation*

Johannes ROLINK*
FH Münster - University of Applied Sciences, Germany

1582 *Automated Metro-Style Low Voltage Grid Visualization for Rapid Grid Development*

Lennard SCHAAP* (1), Joan RESSING (1), Anne VAN DALSEN (1,2), Rick VAN KASTEREN (1,2), Sterre DE LANGE (1)
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Theme 3 – New Regulation and Practices to Spark Innovation and Minimize Business Risk

1115 *Connection Of Distributed Electrical Energy Generation Sources With Enabled P/U Characteristic*

Matjaž KLANČNIK*, David POČIVAVŠEK
Elektro Celje, d.d., Slovenia

1120 *Adopting the Smart Grid Maturity Model to Drive Regulatory Innovation and Manage Business Risk: The Nama Electricity Distribution Experience, Oman.*

Ahmed ALSHAQSI*
The Authority for Public Services Regulation, Oman

1127 *KYEC – Leveraging Artificial Intelligence for Consumer Empowerment in Smart Metering*

Dr. Nilesh KANE*, Karunakaran B, Ruman MAKNOJIA, Dey DEVANJAN, Ajit MORE
Tata Power Company Limited, India

1131 *Survey And Analysis Of Real-time Distribution Grid Congestion Management*

Anne VAN DER MOLEN (1,3), Job WELLEMAN (2), Laurens DE VRIES (2), Aad CORRELJE (2), Phuong NGUYEN (3), Koen KOK (3), Peter VAN DER WIELEN (3), Eveline SAHNI* (1)
1: Stedin; 2: TU Delft; 3: TU Eindhoven

1145 *Community Energy Storage Systems in Low-Voltage Distribution Networks: Definitions, Use- Cases, and Deployment Challenges*

Elias Mandefro GETIE*, Md Umar HASHMI, Louise SADOINE, Geert DECONINCK
KU Leuven/EnergyVille, Belgium

1198 *Designing Active Operation in Low-Voltage Distribution Grids: Requirements, Interfaces and Roadmap*

Eric TÖNGES (1), Andrea SCHOEN* (1,2), Frank MARTEN (2), Marco PAU (1,2), Denis MENDE (1,2)
1: University of Kassel, Germany; 2: Fraunhofer Institute for Energy Economics and Energy System Technology IEE

1199 *Grid Capacity Market For Pre-empting Grid Congestion*

Berend HOPMAN*, Wester COENRAADS, Richard WESTERGA, Michel EMDE
TNO, The Netherlands

1206 *Open Data–Driven Estimation of Long-Term Distribution Line Outage Risks in Disasters*

Takaya ANEGAWA* (1,2), Kyosuke TAKAYAMA (2), Atsushi ISHIGAME (2), Takumi YOSHIOKA (1)
1: Kansai T&D, Japan; 2: Osaka Metropolitan University

1215 *Preliminary Evaluation: methodological approach for Grid Initiatives analysis, sharing and prioritization*

Maria RODNAYA*, Luca DI STEFANO, Rita LEOPARDI
Enel Grids, Italy

1221 *Flexible Connection Agreements And TOTEX Incentive Regulation For Efficient Network Infrastructure Deployment: The Spanish Case*

Manuel ROMEO MONTERDE, Tomás GÓMEZ SAN ROMÁN, Miguel Ángel RUIZ HERNÁNDEZ*, José Pablo CHAVES ÁVILA
Comillas Pontifical University, Institute for Research in Technology (IIT), Spain

1227 *Italian 2025 Distribution Network Development Plans, overview and possible improvements*

Giacomo VIGANO', Marco ROSSI, Simona SELLITTO*
Ricerca sul Sistema Energetico, Italy

1229 *Future for Security of Supply for Electricity Distribution*

Liza TROSHKA* (1), Steve QUINN (1), Nigel TURVEY (2), Furong LI (2)
1: National Grid, United Kingdom; 2: University of Bath

1234 *Accelerating Replacement Of Ageing Distribution Transformers: Mapping The Landscape With EU-TRACE*

Miguel MARTINEZ VELÁZQUEZ (1), Ricardo HENRIQUES (2), Ondrej CERNY (2), Bruno DE WACHTER* (3), Tomas JEZDINSKY (3)
1: Institute for Research in Technology (IIT), Universidad Pontificia Comillas, Spain; 2: E.DSO, Belgium; 3: International Copper Association Europe, Belgium

1239 *How Tariff-Based EV Flexibility Can Delay - But Not Solve - Network Loading Challenges In Northern Ireland*

Karen PLATT (1), Tim BUTLER (1), Andy PRICE-ALLISON* (1), Naomi MORROW (2), Esther DUDEK (1), Fuqian ZENG (1), Emma PYM (3), Peter WELDON (3), Efrosyni THEOCHAROUS (3)
1: EA Technology, Capenhurst, United Kingdom; 2: Northern Ireland Electricity Networks Limited, Belfast, Northern Ireland; 3: SYSTRA,Woking,UK

1259 *Identification of Energy Sharing Use Cases in the research project SkIES*

Louisa WASMEIER* (1,2), Erwan TAILLANTER (1), Alexander HEYDER (1)
1: FfE, Germany; 2: Universität Kassel

1262 *Unlocking The Flexibility Behind AI-based Energy Management Systems (EMS) For Congestion Management*

Trung NGUYEN* (1), Wico MULDER (2), Erwin FOLMER (1), Sadegh SEDDIGHI (1), Carolien KATTENBELT (1), Luc NIES (3), Ronald VAN WEELE (3), Aliene VAN DER VEEN (2)
1: HAN University of Applied Sciences; 2: TNO; 3: Alliander

1266 *End-to-End Generation Framework for Dynamic Energy and Grid Tariffs*

Joé WENGLER*, Xavier LEUNG, Jonas WÄFLER, Michael AUER, Ariane KOLLER, Gunnar FUHRMANN
ewz, Switzerland

1268 *From Setup Towards a Functional Local Flexibility Market*

Dan TELÉN* (1), Pirjo HEINE (1), Jukka RINTA-LUOMA (2), Sonja NURMIAINEN (2), Suvi PELTOKETO (2)
1: Helen Electricity Network Ltd., Finland; 2: Fingrid Oyj, Finland

1302 *Analysis of the Alignment Between Low-Voltage Network Hosting Capacity and Regulatory Constraints for Prosumers: Case Study in Federation of Bosnia and Herzegovina*

Marin MAJSTOROVIĆ*, Drago BAGO, Sonja SUŠAC, Mia PREVIŠIĆ, Ivan ŠIMOVIĆ
JP „Elektroprivreda HZ HB" d.d. Mostar, Bosnia and Herzegovina

1308 *Estimating the Energy Use of Public EV Charging Infrastructures*

Helena OLSSON, Thomas CHAVERONDIER*, Thibaut BUFFARD
Enedis, France

1362 *Price Signals and Carbon Emissions: Why EV Charging is Cleaner Than Expected*

Julian Marius MITTAG*, Leonardo FERHATI, Mattia SECCHI, Charalampos ZIRAS, Mattia MARINELLI
Technical University of Denmark, Denmark

1366 *Distributed Energy Resource Remuneration For Power System Resilience Enhancement*

Xavier WEISS* (1), Lars NORDSTRÖM (1), Patrik HILBER (1), Arne BERLIN (2)
1: KTH, Royal Institute of Technology, Sweden; 2: Vattenfall Eldistribution AB, Sweden

1402 *Towards a New Era of Data Acquisition: Belgian Railway Expertise and Perspectives for Power Distribution Networks*

Alain GRISVAL (1), Numa COUNIOT (2), Thomas LAPORTE* (3)
1: OMEXOM, France; 2: AXIANS, Belgique; 3: Hylight, France

1422 *Comparison of Different Dynamic Network Tariffs for Economically Operating Battery Energy Storage Systems in Distribution Grids*

Frederik GIELNIK*, Victor WEISE, Olga KINAS, Michael SURIYAH, Thomas LEIBFRIED
Karlsruhe Institute of Technology, Germany

1424 *Assessment of Baseline Methods for DSO Flexibility Markets: Quantitative Evidence From the UK*

Jake VERMA*, I. A. Grant WILSON, Daniel L. DONALDSON
University of Birmingham, United Kingdom

1425 *A Unified Grid-State Signal for Activating Household Flexibility Under Real German System Conditions*

Antonia WEBER* (1,2), Florian DINGER (2), Dominik SCHLIPF (2), Frank TRUCKENMÜLLER (1), Gernot SCHULLERUS (1)
1: Reutlingen University, Germany; 2: TransnetBW GmbH, Germany

1443 *Learning from Europe's Local Flexibility Markets: Design Options and Key Success Features*

Kris KESSELS*, Janka VANSCHOENWINKEL, Anibal SANJAB, Wicak ANANDUTA, Helena GERARD
VITO/EnergyVille, Belgium

1452 *Managing EV Charging and Renewables under Limited LV Grid Capacity: A Regulatory Perspective*

Stephan CEJKA*, Franz ZEILINGER
Siemens AG Austria

1458 *GeoDescriber x GeoLLM: Let The Energy Data Speak*

Axel DECLERCQ* (1), Léon LIM (1), Eric LAVERGNE (2), Lydia OULD OUALI (2), Benoît GROSSIN (2)
1: Enedis, France; 2: EDF R&D, France

1463 *Fairness Quantification of Congestion Management Measures in Distribution Systems Based on Customer Impacts*

Anna-Lena STEEN*, Finn NUSSBAUM, Payam TEIMOURZADEH BABOLI, Christian BECKER
Institute of Electrical Power and Energy Technology, Hamburg University of Technology (TUHH), Germany

1465 *Dynamic Operating Envelope Grid Prequalification for Sequentially Coordinated Flexibility Markets*

Wicak ANANDUTA*, Anibal SANJAB
VITO & Energyville, Belgium

1477 *PyECOM Frontend – Assessment of Algorithms for Energy Communities*

Larissa MONTEFUSCO (1,4), Victoria DEICHMANN (1,4), Diogo REIS (1,2), Eduardo GOMES (3,4), Diogo FERREIRA (1,4), Lucas PEREIRA (3,4), Hugo MORAIS* (1,4)
1: INESC ID; 2: U. Madeira, Portugal; 3: ITI – LarSys; 4: IST, Portugal

1505 *Investigation of Aggregated Flexibility Potentials of Electric Vehicles Based on Energy and Power Boundaries*

Andreas BONG*, Julian BIGALKE, Philip KVESIC, Andreas ULBIG
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1522 *Modelling of Flexibility Potentials of Residential Heat Pumps*

Julian BIGALKE*, Andreas BONG, Andreas ULBIG
IAEW at RWTH Aachen University, Germany

1523 *Machine-Readable Network Tariffs as Enablers of Flexibility and New Market Models in Future Distribution Grids*

Niklas THIDEVALL*, Eddie OLSSON, Mattias ESBJÖRNSSON
RISE - Research Institutes of Sweden

1531 *PV Hosting Capacity Assessment with Traditional Solutions and Beyond: A Brazilian Case Study*

Iuri L. Q. M. SILVA (1), Fillipe M. de VASCONCELOS (1), Leandro T. MARQUES (1), Vinicius C. MORO (1), Leonardo V. BONATTO* (2), Marcos J. RIDER (3)
1: Federal University of Mato Grosso, Brazil; 2: École Polytechnique, France; 3: University of Campinas, Brazil

1538 *Fairness For Distribution Network Operations and Planning*

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1: KU Leuven, Leuven, Belgium; 2: EnergyVille, Genk, Belgium

1541 *Peer-Relative Smart-Meter KPIs For Meter Quality Validation And Flexibility Tariffs*

Gideon MBIYDZENYUY* (1), Saleh JAVADI (2)
1: University of Borås, Sweden; 2: Blekinge Institute of Technology

1549 *Battery Bidding Strategies under Extreme Price Events: A Comparative Study of DRL Approaches Using Quantile-Spike Forecasting*

Dong Seok KIM*, Kang Hyeok HEO, Seung Wan KIM
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