



IEEE Global Energy Conference (GEC2022)

October 26-29, 2022

Batman University, Batman, Turkey

Sponsored by Batman University and Batman Energy Coordination Center (EKOM)

Technically Co-sponsored by IEEE, IEEE Turkey Section, IEEE PES and IEEE PELS

IEEE Catalog Number

Media Type Requested	Part Number	ISBN	Media Qty Requested
XPORE COMPLIANT	CFP22BX8-ART	978-1-6654-9751-0	1



TABLE OF CONTENTS

Cover	i
Table of Contents	ii
Copyright Page	iii
Author Index	iv
Preface – General Chair	v
Keynotes	vi
Program	vii
Committees	viii

Author Papers

N.	Paper Title	PP.
1	Advanced Measurement Systems with Smart Grid in Turkey: Roadmap 2032	1-6
2	Non-convex Dynamic Economic Emission Dispatch With Ramp Rate Limits Using Heuristic Algorithms	7-12
3	Short Term Load Forecasting Using Machine Learning Algorithms: A Case Study in Turkey	13-18
4	A novel day ahead charging scheme for electric vehicles with time of use-based prioritization supported by genetic algorithm	19-24
5	System Identification and Control of High Voltage Boost Converter	25-31
6	Single-Phase Transformer-less Dynamic Power Flow Control of Transmission Network using Cascaded Converter based SSSC	32-37
7	Effect of Solar Photovoltaic Generation Systems on Voltage Stability	38-41
8	Optimal Sizing of Rooftop Photovoltaic Systems in Micro Grid with Hydro-Based Energy Storage: A Particle Swarm Optimization Approach	42-46
9	Transaction and operation control algorithm for an energy bank.	47-51
10	Proportional-Integral Control Analysis of Energy Resource System	52-57
11	An approach for determining load-dependent monetary assessment factors for PILC and XLPE cables within a load flow simulation	58-64
12	Smart Agriculture Application for Monitoring Environment of Poultry Farm with Energy-Efficiency Measure	65-70
13	Metasurface-Based Reflective Type V- and W- Band Polarization Converter for Various Microwave Applications	71-74
14	Economic Feasibility Analysis of a Designed Poultry Farming Zone with Renewable Energy Resources in Bangladesh	75-79
15	Dual Side Control Design for a 600W LCC Compensated Wireless Power Transfer System	80-83
16	Distribution network performance enhancement by coordinated operation planning of the RES-ESS pair	84-89
17	Multi-node Communication Solution for Synchronous Control of Distributed Power Electronic Devices	90-95
18	Coupled Inductor Based Buck PFC Converter for Elimination of Dead Zones	96-100
19	Design and Implementation of a Sustainable Energy Generating Pad for Lightweight Transportation	101-104
20	M/G/1 queue with Balking Shannonian Maximum Entropy Closed Form Expression with Some Potential Queueing Applications to Energy	105-110
21	Using Artificial Bee Colony and Dragonfly Algorithms to Improve the Accuracy of Parameter Estimation of Li-FePO ₄ Battery Cell	111-115
22	Fuzzy Inference and Machine Learning Based HVAC Control System for Smart Buildings	116-119
23	Design of a Open Loop Wind Power Emulator for Analyzing the Performance of Wind Energy Conversion System	120-125
24	Comparison of Failure Statistics Data with MV Voltage Collapse Event Records and Differentiation of Voltage Drop	126-129

25	Mppt Control For Pv Systems With Analytical Analysis Fractional Open Circuit Voltage Method	130-135
26	Developing and Designing Grid Sense for Fault Detection in Overhead Electricity Distribution Network	136-142
27	Measurement-based Parameter Estimation for Dynamic Load Modeling	143-147
28	Optimization of Three Phase Squirrel Cage Induction Motor	148-153
29	PID Controller Design for DFIG-based Wind Turbine via Reptile Search Algorithm	154-158
30	Portable Solar-Powered Smart System for Reverse Osmosis Process of Drinkable Rainwater	159-163
31	The Electricity Price Prediction of Victoria City Based on Various Regression Algorithms	164-167
32	Daily Solar Radiation Prediction Using LSTM Neural Networks	168-172
33	Resilience-Oriented Optimal Planning of Gas-Fired DGs in Electrical Distribution Networks Considering Damage of Natural Gas Network	173-178
34	Implementation of Sliding Mode Control Method for Switched-Inductor Quasi-Z-Source Inverter	179-184
35	Performance Improvement for Interior Permanent Magnet Machines by Winding Reconfiguration	185-190
36	Utilization of Renewable Energy Technologies: School Buildings in Baghdad as a Case Study	191-196
37	Optimization Of Electric Vehicle Charging Stations	197-201
38	Modeling of STATCOM connected system to microgrid	202-207
39	Detection of surface anomalies on electric motors based on visual deep learning methods	208-216
40	Energy Management System for PV-DC Generator based Microgrid for Rural Homes	217-222
41	Modeling and Simulation of PMSG based Wind-Solar Energy Based Hybrid Energy Conversion System	223-228
42	A consumer-friendly demand side management technique for residential loads supported by two stage Genetic Algorithm-based optimization	229-234
43	Power System Stabilizer Linear Parameter Varying Modeling and Controller Synthesis Framework	235-240
44	The Transition Toward Merging Big Data Analytics, IoT, and Artificial Intelligence with Blockchain in Transactive Energy Markets	241-246
45	Resilience Assessment of Distribution Systems Against Extreme Weather Events: Flooding Threats in Iran's Electricity Network	247-252
46	False Data Injection Attacks on CSA-Based State Estimation in Smart Grid	253-257
47	The Application of HBA Technique to Economic Dispatch: A Case Study From Turkey	258-261
48	Honey Badger Algorithm for Adjustment of FOPID Controller Adopted in An Automatic Voltage Regulator System	262-265
49	Photovoltaic Power Plant Flexible Operation for the Provision of Power Reserves and Frequency Response under Uniform and Non-uniform Irradiance	266-271
50	Detecting Cyber Attacks in a Cyber-physical Power System: A Machine Learning Based Approach	272-277
51	Enhancing Capabilities of Wireless Transmission for Electric Vehicle	278-281
52	Advanced Control Techniques for Doubly-Fed Induction Generators Based-Wind Energy Conversion Systems	282-287
53	A Practical Byzantine Fault Tolerance Blockchain for Securing Vehicle-to-Grid Energy Trading	288-293
54	Short-term Load Forecasting using the Combined Method of Wavelet Transform and Neural Networks Tuned by the Gray Wolf Optimization Algorithm	294-299
55	An Information Theoretic Unified Global Theory For a Stable M/G/1 Queue With Potential Maximum Entropy Applications to Energy Works	300-305
56	A Machine Learning Approach to Transformer Oil Temperature Monitoring Using Load Analysis	306-311
57	Parameter Estimation of Solar Cells via Weighted Mean of Vectors Algorithm	312-316

58	Steady-State Analysis of TSBB Converter with Parasitics	317-323
59	Mobile Battery Energy Storage System for On/Off Grid Applications	324-328
60	Hybrid Heuristic and Pattern Search Optimization Algorithm for Design Optimization of Energy Efficient Distribution Transformer	329-334
61	Combining Regularization and Dropout Techniques for Deep Convolutional Neural Network	335-339
62	A Simple Recursive Least Squares Approach for Off-line Parameter Identification of FOC Permanent Magnet Synchronous Machine Drive	340-344
63	Analytic representations of finite quantum systems based on SU(2) coherent states in $C \cup \{\infty\}$ and potential quantum applications to energy works	345-351
64	Change in Calculated Carbon Aromaticity Index (CCAI) based on Cetane Indexes of Biodiesel Fuels of Different Origins	352-356
65	The Core of a Smart Grid: Internet of Energy and Machine Learning	357-360
66	ANN based prediction of module temperature in a single axis PV system	361-367
67	The effects of TiO ₂ nano fluid on efficiency and heat transfer indicators of an inner-plate finned collective cooling in a PV/T hybrid system	368-373
68	Artificial Intelligence Based Regression Models for Prediction of Smart Grid Stability	374-378
69	Towards Abel Prize: The Generalized Brownian Motion Manifold's Fisher Information Matrix With Info-Geometric Applications to Energy Works	379-384
70	A review of potential applications of Tensor Decompositions to Electromagnetics and energy works	385-390
71	Machine learning-based wind speed time series analysis	391-394
72	Comparison of Energy Storage Technologies in Smart Grids, Implementation Challenges of Vanadium Technique	395-401
73	State Estimation of Buck Converter by Using Kalman Filter	402-407

Copyright and Reprint Permission

Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For reprint or republication permission, email to IEEE Copyrights Manager at pubs-permissions@ieee.org. All rights reserved. Copyright ©2022 by IEEE.

Compliant PDF Files

IEEE Catalog Number: CFP22BX8-ART

ISBN: 978-1-6654-9751-0

Author Index

S.No	Author Name	Page No
1	Abdurrahman Gönenç	374
2	Aditya Yadav	272, 288
3	Ahmet Aydin	368
4	Ahmet Karaarslan	96, 179
5	Ahmet Mete Vural	223
6	Aisha Faraj Mohammed	345
7	Alfredo Martinez-Morales	1
8	Ali Durusu	42
9	Ali Ghadiriasl Nobari	13
10	Ali Öztürk	253, 261
11	Ali Pashaei	80
12	Ali Sami Gozukirmizi	208
13	Ammar Alnahwi	324
14	Andrew Wernerbach	391
15	Anish Vedant	272, 288, 306
16	Anju Saini	217
17	Arpita Bharti	217
18	Ayşe Aybike Şeker	84
19	Aysenur Oymak	202
20	Aziz Derouich	282
21	Bartłomiej Flak	90
22	Bedri Kekezoğlu	42
23	Belgin Turkay	7, 13, 253, 261
24	Cafer Budak	154, 172
25	Cemil Koyunoğlu	352
26	Cenk Andic	13, 253, 261
27	Christian Rehtanz	266
28	Christian Weindl	58
29	Daniel Lewandowski	90
30	Davut Izci	154, 168, 262, 312
31	Davut Sevim	25
32	Demetres Kouvatsos	105
33	Deniz Yıldırım	120
34	Diana Racines	266
35	Ebru Apaydın	197
36	Eftakhar Hossain	65, 75
37	Eklas Hossain	202
38	Emre Erkan	25
39	Emrullah Acar	164, 372
40	Emrullah Aydın	80
41	Erdal Şehirli	402

42	Esra Aydin	7, 261
43	Farooq Mukhtar	25
44	Faruk Erken	402
45	Fatih TUTAR	71
46	Fevzi Çakmak	130
47	Fevzi Yaşar	352
48	Gaurav Patil	278
49	Gediz Uğuz	352
50	Gokhan Erturk	116
51	Gökhan Öztürk	71
52	Gopi Krishna Allaboyena	235
53	Habib Benbouhenni	282
54	Habip Yusuf Hasırcı	223
55	Hakan Kızmaz	52
56	Hamid Choja	282
57	Hamidreza Nazaripouya	324
58	Hande Ates	116
59	Harun Etçi	148
60	Hassan Bevrani	vi
61	Hossein Bevrani	335
62	Hossein Ranjbar	173
63	Hossein Shahinzadeh	241, 247, 294
64	Hüseyin Akgül	96
65	Hüseyin Aydin	361, 368
66	İbrahim Şenol	148
67	Idris Demir	357, 374, 112
68	Irfan M Sheikh	306
69	İsmail Kayri	361, 368
70	Ismail A Mageed	300, 379, 385, 397
71	Jalal Moradi	241, 247, 294
72	Jannatul Feardous	65
73	John O. Attia	101
74	Josep M. Guerrero	vi
75	Kadir Eker	402
76	Kalpana Chauhan	217
77	Kazi Meharajul Kabir	96, 159
78	Kerim KAYA	126
79	Khaled M Abo-Al-Ez	47
80	Krzysztof Ziętara	90
81	Manjit Singh Sidhu	379, 397
82	Marcin Firla	90
83	Martial Giraneza	47
84	Md Sadik Tasrif Anubhove	65, 75
85	Md Shanian Moed	229
86	Mehmet Siraç Özerdem	164

87	Mehmet Necat Tur	395
88	Mehmet Rıda Tür	130, 197, 202, 395
89	Mehmet Timur Aydemir	80
90	Merve Kurt	71
91	Mikail Purlu	7, 13
92	Mohamed Benbouzid	241, 247, 294
93	Mohamed Tousi	282
94	Mohammad Hassan Hashemi	329
95	Mohammad Zeyad	65, 75
96	Mohamed I. Mosaad	282
97	Mohammad-Hossein Fayaz-Dastgerdi	241, 294
98	Mohammadreza Iranpour	247
99	Mohammad-Reza Feizi-Derakhshi	335
100	Mohd Adil Sheikh	272, 288, 306
101	Mourad Yousef	282
102	Muhammad Fasih Uddin	32
103	Muhammed Oguz Tas	116
104	Muhittin Yilmaz	235
105	Muntadher Suhail Abed	191
106	Musa Yilmaz	1, 374, 379, 385
107	Mutlu BEKTAS	126, 136
108	Necmettin Sezgin	312
109	Neelkamal Shah	105
110	Nihat Pamuk	38
111	Nilesh Ahire	278
112	Oguzhan Topsakal	391
113	Olivia Long	324
114	Omar Imitiaz	32
115	Omer Cihan Kivanc	208, 340
116	Omer Faruk Ertuğrul	357, 395
117	Omer Ileri	357
118	Omkar N Thite	272, 288
119	Othmane Zamzoum	282
120	Özay Can	262
121	Özkan Özkara	179
122	Paweł Rajda	90
123	Qichun Zhang	300, 379
124	Qobad Shafiee	vi
125	Rajeev Kumar Chauhan	217
126	Ramazan Calik	340
127	Reha Ozgur Simsek	340
128	Resat Celikel	385
129	Ryan Horton	324
130	S M Masum Ahmed	65, 75
131	S. Mohammadali Zanjani	241, 294

132	S.M.Hasan Zanjani	247
133	Sandeep Sunil Ushkewar	278
134	Saurav S Sharma	272, 288
135	Sayeed Hasan	75
136	Sazid Mahmud	229
137	Sebastian M Bottler	58
138	Sedat Orenc	164
139	Şehmus Fidan	25
140	Seif Eddine Chehaidia	282
141	Selcuk Emiroglu	143
142	Selim Dikmen	329
143	Serdar Ekinci	154, 168, 262, 312
144	Seyed Hamid Hosseini	173
145	Sezai Taskin	32
146	Shreshtha Mittal	217
147	Shuza Binzaid	101, 159
148	Sid-Ali Amamra	52
149	Süleyman Dal	312
150	Süleyman Tunçel	84
151	Syed Abdullah-Al- Nahid	19, 229
152	Tafsir Ahmed Khan	229
153	Tahir Cetin Akinci	1, 379, 391
154	Talha Enes Gumus	143
155	Taner Çarkıt	111
156	Tareq Aziz	229
157	Tayfun Gundogdu	185
158	Timothy Dodge	324
159	Tobias Blenk	58
160	Tuba Gozel	84
161	Tunahan Sapmaz	148
162	Ugur Kilic	42
163	Ulas Kilic	329
164	Umut Emre Uzun	38
165	Umutcan Polat	120
166	Uzair Asif	32
167	Vageesh Amoriya	217
168	Veysel Gider	154, 168
169	Vishwanatha Siddhartha	317
170	Wahiba Yaici	241, 247, 294
171	Wiktor Feliniak	90
172	Yasemin Oner	148
173	Yasin Gilasi	173
174	Yogesh Vijay Hote	317
175	Yucel Cetinceviz	402
176	Yunus Emre Isikdemir	116

177	Zafer Aydoğmuş	130
178	Zafer Ortatepe	96, 179
179	Zari Farhadi	335