

7th Iran Wind Energy Conference (IWEC 2021)

**Shahrood, Iran
17 – 18 May 2021**



**IEEE Catalog Number: CFP21AR7-POD
ISBN: 978-1-6654-2378-6**

**Copyright © 2021 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: 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 other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP21AR7-POD
ISBN (Print-On-Demand):	978-1-6654-2378-6
ISBN (Online):	978-1-6654-2377-9

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

Table of Content

Techno-economic Assessment for Installing Small Wind Turbine at Subornochar Region in Bangladesh .	1
Improved Fault Ride Through Strategy Of Doubly Fed Induction Generator based Wind Turbine Using Model Predictive Control.....	7
Using Type-2 Fuzzy In Decision-Making For Wind Potential Assessment In Iran	13
Performance Enhancements of Savonius Wind Turbine using a Hybrid Augmentation System	18
A Method Based on Fast Fourier Transform for Online Supervising of Power System and Control Structure Design	23
Simulation and Optimization of Ducted Wind Turbines using the Response Surface Methodology and Analytical Hierarchical Process	29
Energy Management of Reconfigurable Distribution System in Present of Wind Turbine by Considering Several Kinds of Demands.....	35
Impacts of Contributing Distribution Network Operator (DNO) and Distributed Generation Unit Operator (DGO) in Benefit Maximizing	39
Inertia Emulation with the Concept of Virtual Supercapacitor for Islanded DC Microgrid.....	43
Dynamic Voltage Restorer based on a New Step-up Switched Capacitor Multilevel Inverter for Fault Ride-Through of Wind Generators	47
Optimization of an Industrial Township Costs from an Industrial Service Company View (Case Study: A Distributed Gas-Fired CHP)	52
Transient Analysis of LCC based HVDC Offshore Wind Farms using DIgSILENT PowerFactory	57
Imbalance Power Sharing Improvement in Autonomous Microgrids Consisting of Grid-Feeding and Grid-Supporting Inverters.....	62
Analysis of Wind Generator Contribution on load Frequency Control Considering Control Signals Delays	68
Damping Improvement of Inter-Area Oscillations Using Large-Scale Wind Farms.....	73

DC Microgrid Voltage Stability through Inertia Enhancement Using a Bidirectional DC-DC Converter.	78
Reliability and Economic Indices Assessment in Interconnected Microgrids	83
Effect of Sag Voltages From Wind Turbines on DC Link Capacitors of Adjustable Speed Drives.....	89
Fault Location Identification in Meshed AC Microgrids Using Interharmonic Injection	94
The New Adaptive Protection Method for the Compensated Transmission Lines with the Series Capacitor in a High Share of Wind Energy Resources by Using PMU Data.....	100
Conceptual Design and Initial Analysis of an Oscillating Wind Turbine.....	105
Investigating the Impact of Wind Farms Energy Yields on Reduction of Power Plants Natural Gas Consumptions and CO2 Emissions: A Practical Case Study in Iran	111
Comparison of Monte Carlo Simulation and Genetic Algorithm in Optimal Wind Farm Layout Design in Manjil Site Based on Jensen Model.....	115
Robust Site Selection of Solar/Wind Farms Using Neural Networks and Analytic Hierarchy Process ...	119
Numerical Study of Savonius Wind Turbine Start-up Considering the Rotor moment of Inertia in Sinusoidal Unsteady Wind Conditions	123
A Numerical Study of INVELOX Wind Turbine Considering the Inlet Shape Design	129
Assessment of Electric Energy Generation using Wind Energy in Turkey	134
Wind Energy Generators Fault Current Protection: Structures Survey	137
Techno-economic Analysis of Wind Turbines Systems to Reduce Carbon Emission of Greenhouses: A Case Study in Iran.....	143
Modeling and Simulation of an Airborne Wind Turbine.....	147
Spectral Analyses of an Optimized Ducted Wind Turbine using Hot-Wire Anemometry	153
Evaluation of Wind Power Plant Potentials in the Marmara Region, Turkey via TOPSIS and PROMETHEE Methods	157
Wind-Solar Site Selection using a GIS-MCDM-based Approach with an Application in Kayseri Province/Turkey.....	161

Flow Physics Analysis of a Vertical Axis Wind Turbine Using FloEFD.....	165
An Efficient Trombe Wall with Building Integrated Wind Turbine.....	169
Design Strategies and Performance Comparison Of Software & Hardware Damping of Resonance Spike	172
Study on Inter-Turn Short Circuit Fault and High Resistance Connection in the Stator of Doubly-Fed Induction Generators.....	178
A Novel Short Term Wind Speed Forecasting based on Hybrid Neural Network: A Case Study on Smart City in India	184
A Data-driven Bidding Strategy of a Wind-Diesel-Electrical Storage Hybrid System in a day-ahead Electricity Market	188
Aeroelastic Stability of Horizontal Axis Wind Turbine Blades.....	193