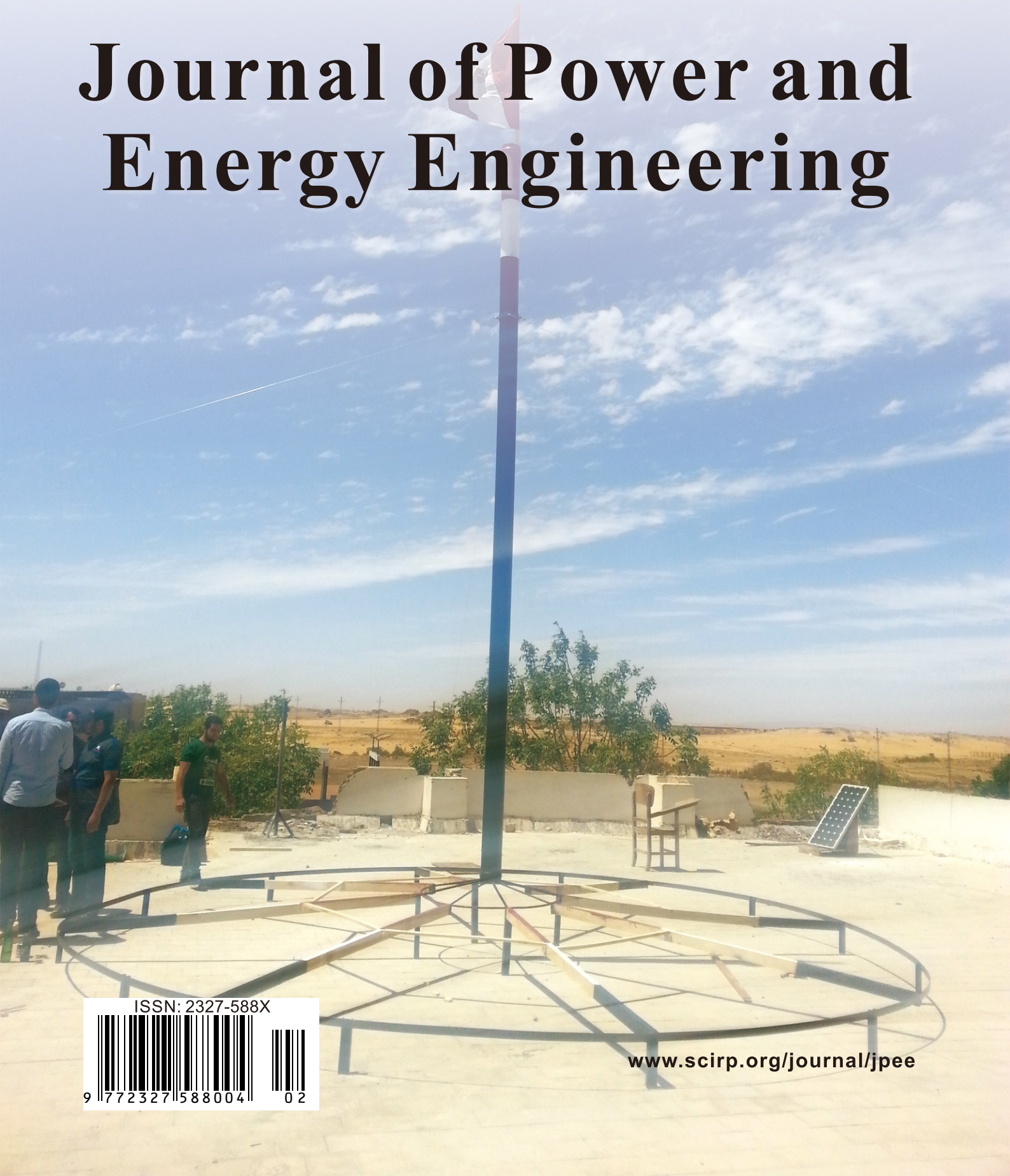
ISSN: 2327-588X Volume 7, Number 2, February 2019

Scientific Research Publishing

Journal of Power and Energy Engineering



ISSN: 2327-588X

9 772327 588004 02

www.scirp.org/journal/jpee

Journal Editorial Board

ISSN Print: 2327-588X ISSN Online: 2327-5901
http://www.scirp.org/journal/jpee

Editor-in-Chief

Prof. Elias K. Stefanakos University of South Florida, USA

Editorial Board

Dr. Roberto Capata University of Roma "Sapienza", Italy
Prof. Wei-Hsin Chen National Cheng Kung University, Chinese Taipei
Dr. Chun-Hu Cheng National Taiwan Normal University, Chinese Taipei
Dr. Smith Eiamsa-ard Mahanakorn University of Technology, Thailand
Prof. D. Yogi Goswami University of South Florida, USA
Prof. Zhongjie Huan Tshwane University of Technology, South Africa
Dr. Freddie Liswaniso Inambao University of KwaZulu-Natal Durban, South Africa
Prof. Nnenesi A. Kgabi Polytechnic of Namibia, Namibia
Prof. Ching-Fuh Lin National Taiwan University, Chinese Taipei
Prof. Rodolfo Dufo López University of Zaragoza, Spain
Prof. Elham B. Makram Clemson University, USA
Prof. George Papadakis Agricultural University of Athens, Greece
Dr. Elias Papanicolaou Solar & Other Energy Systems Laboratory Attiki, Greece
Dr. Raul Rabinovici Ben-Gurion University of the Negev, Israel
Prof. M. Ramamoorty K L University, India
Dr. Manuel Romero IMDEA Energy Institute, Spain
Dr. Ravi S. Srinivasan University of Florida, USA
Dr. Vittorio Verda Politecnico di Torino, Italy
Prof. Valery Vodovozov Tallinn University of Technology, Estonia
Prof. Nikolai Voropai Energy Systems Institute of Russian Academy of Sciences, Russia
Prof. Chao Xu North China Electric Power University, China
Dr. Wenxian Yang Newcastle University, UK
Dr. Xiaowei Zhou Northwestern University, USA

Scientific Research Publishing

Journal of Power and Energy Engineering, 2019, 7, 1-78
http://www.scirp.org/journal/jpee
ISSN Online: 2327-5901
ISSN Print: 2327-588X

Table of Contents

Volume 7 Number 2 February 2019

HCFL Lamp Only Lights Up under Coexistence of Cathode and Anode in Ar Gas Space for Half Cycle of AC Driving Circuit

L. Ozawa.....1

Fault Waveform Regenerator and Its Digital Closed-Loop Modification Technique

X. M. Sun.....14

Homer's Feasibility Analysis of a Hybrid System with a Grid Connection Option for the Mauritanian Northern Coast

S. Mohamed, I. B. Ramdhane, D. Ndiaye, A. K. Mahmoud, M. Elmamy, M. M. Menou, A. M. Yahya, I. Youm.....27

Enhancement of Wind Energy Conversion Using Axial Flux Generator

I. Al-Bahadly, S. C. Neppalli.....43

Design of a Hybrid System for Rural Area Electricity Supply in Comoros

K. M. Aboudou, M. El Ganaoui.....59

Journal of Power and Energy Engineering (JPEE)
Journal Information

SUBSCRIPTIONS

The *Journal of Power and Energy Engineering* (Online at Scientific Research Publishing, www.SciRP.org) is published monthly by Scientific Research Publishing, Inc., USA.

Subscription rates:
Print: $39 per issue.
To subscribe, please contact Journals Subscriptions Department, E-mail: sub@scirp.org

SERVICES

Advertisements
Advertisement Sales Department, E-mail: service@scirp.org

Reprints (minimum quantity 100 copies)
Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.
E-mail: sub@scirp.org

COPYRIGHT

Copyright and reuse rights for the front matter of the journal:
Copyright © 2019 by Scientific Research Publishing Inc.
This work is licensed under the Creative Commons Attribution International License (CC BY).
http://creativecommons.org/licenses/by/4.0/

Copyright for individual papers of the journal:
Copyright © 2019 by author(s) and Scientific Research Publishing Inc.

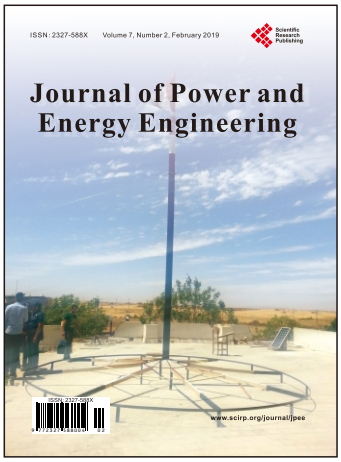
Reuse rights for individual papers:
Note: At SCIRP authors can choose between CC BY and CC BY-NC. Please consult each paper for its reuse rights.

Disclaimer of liability
Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assume no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

PRODUCTION INFORMATION

For manuscripts that have been accepted for publication, please contact:
E-mail: jpee@scirp.org

Call for Papers



Journal of Power and Energy Engineering

ISSN Print: 2327-588X ISSN Online: 2327-5901
http://www.scirp.org/journal/jpee

Journal of Power and Energy Engineering (JPEE) is an international journal dedicated to the latest advancement of power and energy engineering. The goal of this journal is to provide a platform for scientists and academicians all over the world to promote, share, and discuss various new issues and developments in different areas of power and energy engineering.

Editor-in-Chief

Prof. Elias K. Stefanakos University of South Florida, USA

Editorial Board

Dr. Roberto Capata
Prof. Wei-Hsin Chen
Dr. Chun-Hu Cheng
Dr. Smith Eiamsa-ard
Prof. D. Yogi Goswami
Prof. Zhongjie Huan
Dr. Freddie Liswaniso Inambao
Prof. Nnenesi A. Kgabi
Prof. Ching-Fuh Lin
Prof. Rodolfo Dufo López
Prof. Elham B. Makram
Prof. George Papadakis
Dr. Elias Papanicolaou
Dr. Raul Rabinovici
Prof. M. Ramamoorty
Dr. Manuel Romero
Dr. Ravi S. Srinivasan
Dr. Vittorio Verda
Prof. Valery Vodovozov
Prof. Nikolai Voropai
Prof. Chao Xu
Dr. Wenxian Yang
Dr. Xiaowei Zhou

Subject Coverage

All manuscripts must be prepared in English, and are subject to a rigorous and fair peer-review process. Accepted papers will immediately appear online followed by printed hard copy. The journal publishes original papers including but not limited to the following fields:

1. Power Generation-Conventional and Renewable
- Bio-energy technologies, process and utilization
- Environmentally-friendly technologies for power generation
- Geothermal and tidal wave energy
- Hydropower technologies and applicationas
- New technoloies and design for energy efficiency
- New technoloies for minimizing CO_2 generation
- Other sustainable energy
- Photovoltaic for solar power applications
- Safe nuclear energy generation and utilization
- Thermal power technologies and applications
- Waste products as fuel
- Wind power generation and utilization

2. Power System Management
- Application of wide area measurement system (WAMS)
- Control strategies for modern power system stability
- Integrated substation automation technologies
- Load modeling, estimation and forecast
- Modeling and simulation of large power systems
- Online monitoring and fault diagnosis system
- Power system analysis and optimization
- Power system management technologies
- Power system monitoring and mitigation technologies
- Power system planning and operation

3. Power Transmission and Distribution
- Advanced distribution and SCADA technologies
- Electromagnetic analysis in power systems
- Electromagnetic compatibility in power systems
- Electromagnetic transient in high voltage power systems
- HVDC and flexible AC transmission system (FACTS)
- Insulation condition monitoring in power systems
- Over-voltage, lightning protection and grounding
- Plasma physics and the pulsed power technology
- Ultra High Voltage (UHV) technologies

4. Smart Grid Technologies
- Agent-based Computational Economics for Grid
- Agent-based mechanisms for Grid markets
- Agent-based simulation of Grid environments and markets
- Automated negotiation for Grid resource allocation
- Engineering of Grid markets and Grid architectures
- Modeling of Grid environments
- Resource allocation in Grid scenarios using agent-based approaches
- Technical research on future application domains

We are also interested in: 1) Short Reports—2-5 page papers where an author can either present an idea with theoretical background but has not yet completed the research needed for a complete paper or preliminary data; 2) Book Reviews—Comments and critiques.

Notes for Intending Authors

The submitted manuscript should not have been previously published in any form and must not be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. All paper are refereed through a peer process. For more details about the submissions, please access the website.

Website and E-Mail

http://www.scirp.org/journal/jpee E-mail: jpee@scirp.org

What is SCIRP?

Scientific Research Publishing (SCIRP) is one of the largest Open Access journal publishers. It is currently publishing more than 200 open access, online, peer-reviewed journals covering a wide range of academic disciplines. SCIRP serves the worldwide academic communities and contributes to the progress and application of science with its publication.

What is Open Access?

All original research papers published by SCIRP are made freely and permanently accessible online immediately upon publication. To be able to provide open access journals, SCIRP defrays operation costs from authors and subscription charges only for its printed version. Open access publishing allows an immediate, worldwide, barrier-free, open access to the full text of research papers, which is in the best interests of the scientific community.

- High visibility for maximum global exposure with open access publishing model
- Rigorous peer review of research papers
- Prompt faster publication with less cost
- Guaranteed targeted, multidisciplinary audience

Scientific Research Publishing

Website: http://www.scirp.org

Subscription: sub@scirp.org

Advertisement: service@scirp.org