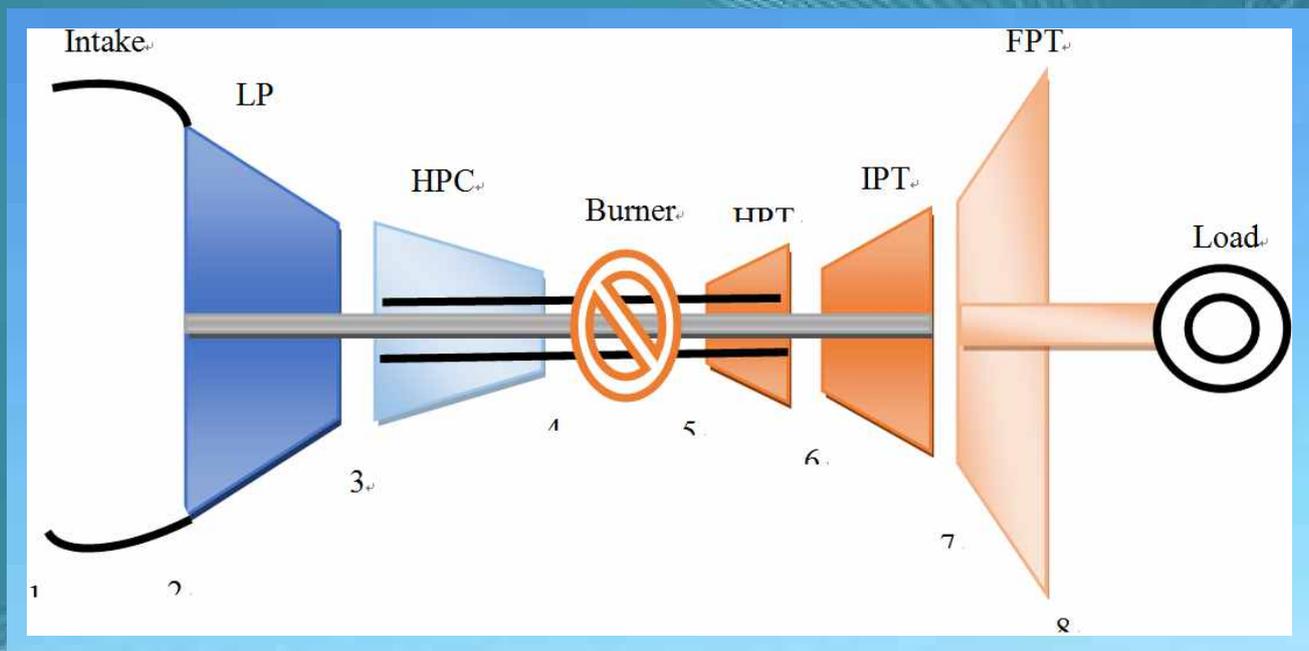


Journal of Power and Energy Engineering



ISSN: 2327-588X



Journal of Power and Energy Engineering

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 (TUT), South Africa

Dr. Freddie Liswaniso Inambao

University of KwaZulu-Natal Durban, South Africa

Prof. Nnnesi 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

Table of Contents

Volume 4 Number 5

May 2016

Analysis Magnetization Current of Harmonic Phenomena and Power Factor as Indicators of Core Saturation at Transformer 3-Phase

E. Dermawan, D. Almanda, L. Zahro, A. I. Ramadhan, E. Diniardi.....1

Advanced Cycles Large-Scale Aero-Derivative Gas Turbines: Performance Comparison

B. Nkoi, T. G. E. Isaiah.....7

Energy Losses in Superconductors

C. Dean, M. N. Kunchur.....20

Simulation and Analysis of Hydrogen Production by Dimethyl Ether Steam Reforming for PEMFC

Z. G. Luo, C. Li.....25

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 © 2016 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 © 2016 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. Nnenedi 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. Ramamoorthy

Dr. Manuel Romero

Dr. Ravi S. Srinivasan

Dr. Vittorio Verda

Prof. Valery Vodovozov

Prof. Nikolai Voropai

Prof. Chao Xu

Dr. Wenxian Yang

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 applications
New technologies and design for energy efficiency
New technologies for minimizing CO₂ 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 papers 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

