

2016 IEEE International Engineering Summit, II Cumbre Internacional de las Ingenierias (IE-Summit 2016)

**Boca del Rio, Mexico
2-5 March 2016**



**IEEE Catalog Number: CFP16YAV-POD
ISBN: 978-1-5090-2459-9**

**Copyright © 2016 by the Institute of Electrical and Electronic 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 publication is a representation of what appears in the IEEE Digital Libraries. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP16YAV-POD
ISBN (Print-On-Demand):	978-1-5090-2459-9
ISBN (Online):	978-1-5090-2458-2

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 Contents

- 1 **Lower Limits of DC-DC Power Conversion in Circuit Integrated Buck Converters and 0.50m CMOS 1.65V/250mA Buck Converter Design**, Gregorio Zamora-Mejía, Victor Rodolfo González-Díaz, Alejandro Diaz-Sánchez, Jose Miguel Rocha-Perez and Jaime Martínez-Castillo
- 6 **Development of a SCADA system with Rescaled Range (R/S) Analysis in Image Acquisition**, Armando Campos-Dominguez, Oscar Velazquez-Camilo and Eliseo Hernandez-Martinez
- 12 **Design of a Mobile Learning Object Repository (ROAM)**, Laura Patricia Antonio-Yela, Alma Delia Otero-Escobar, Mayra Minerva Méndez-Anota and Jaime Martínez-Castillo
- 16 **Performance Evaluation of the New Algorithm of the TCP Protocol for a Long Distance Wireless link in the Galapagos Islands**, Roman Lara, Gonzalo Olmedo, Mishel Acosta, and Javier Sandoval
- 21 **Space-Time Diversity for NLOS Mitigation in TDOA-Based Positioning Systems**, René Játiva, Esteban Garzón and Josep Vidal
- 27 **Vibrational Model for a Gas Turbine Combustion Chamber Gotten from Experimental Test**, Israel Mejía Alonso, Eloy Edmundo Rodríguez-Vazquez, Luis Alvaro Montoya-Santianes, Helen J Zuniga-Osorio, Hugo Gamez Cuatzin and Jose Cruz Pineda-Castillo
- 31 **Analysis of the Development of Smart Sensors Based on MEMS Devices and Smart Sensor Platform Proposal**, Raul Lopez-Leal, Andrea G. Martinez-Lopez, Agustin L. Herrera-May and Jaime Martinez-Castillo
- 37 **Analysis of Three-Phase Load Flow Problem in Distribution Networks with the Inclusion of Symmetric and Asymmetric Transformer Connections**, Miguel Martínez and Sergio Neri
- 42 **Testbed Module for UHF Passive RFID Tags**, Luis Felipe Lagunes-Aranda, José Luis García-Gervacio, Rubén Alvaro González, Luis Eduardo Carrión, Andrea Guadalupe Martínez-Lopez and Jaime Martinez-Castillo
- 48 **Design and Implementation of a System Access Control by RFID**, Rosa Ma. Woo-Garcia, Uriel H. Lomeli-Dorantes, Francisco López-Huerta, A. L. Herrera-May and Jaime Martínez-Castillo
- 52 **Instrumentation and Control of a DC Motor through a Web Platform**, Jackson Steward Ríos Sastoque, Cesar Augusto Romero-Molano and Diego Esteban Molina-Molina

- 58 **Driver System for the Extraction of a Pipeline Inspection Robot**, Martín Enrique Valdivia-Mejía, Eloy Edmundo Rodriguez-Vazquez, José Francisco Villa-Tiburcio, Jorge Alberto Soto-Cajiga and Fernando Hernandez-Rosales
- 64 **Equivalent Modal Model for a Gas Turbine Stator Blade Gotten from Impact Tests**, Helen Janeth Zuniga, Eloy Edmundo Rodriguez-Vazquez, Luis Alvaro Montoya-Santiyanes, Israel Mejía-Alonso, Hugo Gamez-Cuatzin and Jose Cruz Pineda-Castillo
- 68 **Complete State Vector Controller for a Pipeline Inspection**, José Francisco Villa-Tiburcio, Eloy Edmundo Rodriguez-Vazquez, Martín Enrique Valdivia-Mejía, Jorge Alberto Soto-Cajiga and Fernando Hernandez-Rosales
- 72 **Dynamic Model for High-Speed Rotors using Finite Element Analysis based on their Experimental Characterization**, Luis Alvaro Montoya-Santiyanes, Eloy Edmundo Rodriguez-Vazquez, Helen Janeth Zuniga, Israel Mejia-Alonso, Hugo Gamez-Cuatzin and Jose Cruz Pineda-Castillo
- 77 **Algorithm for Implementing 32-Bits Represented Bernoulli Map Using an 8-Bits Microcontroller**, Ricardo Martinez-Gonzalez, Alejandro Diaz-Mendez and Ruben Vazquez-Medina
- 83 **Design of an Automatic Gain Control Circuit in Current-Mode Using a Digitally Controlled Feedback**, Ricardo Martinez-Gonzalez

Additional Papers:

- 91 **Using free software tools: Middle Education Case in Xalapa, Veracruz**
M. Anota, Y. Aguilar, A. Escobar, J. Castillo
- 96 **Exploratory Study to Determine whether Mexico is Able to Reuse Spent Nuclear Fuel**
A. Vidal, E. Fernandez, L. Uscanga, C. Cabrera
- 102 **Computational Simulation of Antennas Array with 17 Elements**
C. Calderon-Ramon, J. Laguna-Camacho, J. Martinez-Castillo, J. Escalante-Martinez, V. Velazquez-Martinez, J. Lopez-Calderon, O. Carcamo-Sarmiento, D. Torres-Hoyos
- 107 **Modeling and Characterization of a Photodetector PEDOT:PSS, ZnPc**
P. Espinosa, J. Martinez-Castillo, A. Marquez
- 111 **Multiscale Analysis by Images of the Microstructure of Sandy Sediments**
E. Huerta, S. Castro, R. Reguera
- 117 **Correlation Analysis of Propagation Models for the Design of a LTE - A Network**
J. Pena