



# IEEE Latin America Transactions

**AUGUST 2021, Volume 19 Issue 8**

**IEEEXplore, DOI, ISI, ISSN 1548-0992**

## **REGULAR ISSUE: Electronics, Energy and Computing**

Table of Contents .....	1251
Nonlinear Control System with Reinforcement Learning and Neural Networks Based Lyapunov Functions R. Rego and F. Araújo .....	1253
Control of a DC-DC Dual Active Bridge Converter in DC Microgrids Applications F. D. Esteban, F. M. Serra, and C. H. De Angelo.....	1261
Modelling and Experimental Validation of Aging Factors of Photovoltaic Solar Cells A. Guisández and M. Santos.....	1270
Electric Field Distribution and Leakage Currents in Glass Insulator Under Different Altitudes and Pollutions Conditions using FEM Simulations J. Araya, J. Montaña and R. Schurch.....	1278
Indoor Navigation Technologies Based on RFID Systems to Assist Visually Impaired People: A Review and a Proposal Y. Sáez, H. Montes, A. García, J. Muñoz, E. Collado and R. Mendoza.....	1286
Improvement of Linear Algebra Controllers using Sliding Surface Concepts: Applications to Chemical Processes M. F. Sardella, M. E. Serrano, O. Camacho and G. J.E. Scaglia.....	1299
Open-Loop Dynamic Optimization for Nonlinear Multi-Input Systems. Application to Recombinant Protein Production M. N. Pantano, M. C. Fernández, F. G. Rossomando and G. J. E. Scaglia.....	1307
Motion Planning of Mobile Robots in Indoor Topological Environments using Partially Observable Markov Decision Process N. Monteiro, V. Goncalves and C. Maia.....	1315
Non-uniform Airflow Analysis of a Greenhouse Extractor Axial with Conical Diffusers using CFD Simulation E. Romantchik-Kriuchkova, A. M. Santos-Hernández, E. Rios-Úrban and D. Terrazas-Ahumada.....	1325
Detection and Isolation of Current-Sensor and Open-Switch Faults in Electric Traction Drives L. E. Venghi, F. Aguilera, P. M. de la Barrera and C. H. de Angelo.....	1335
Analysis of Critical Factors for Energy Efficiency in Productive Systems: A Systematic Review T. O. S. Alfonso, R. A. Cassel, J. C. M. Siluk, B. P. da Silva and S. F. Venturini.....	1347
Planning a HVDC South American Pacific Electric Interconnection Based on MTDC F. A. Acero and M. A. Rios.....	1357

Optimization of a Passive Parallelogram Suspension System for a Planetary Rover using Differential Evolution	
J. A. Aguirre-Anaya, O. Gutiérrez-Frías and H. Sossa-Azuela.....	1366
Optimal Segmentation of Electrical Distribution Networks	
C. A. Bonetti, J. D. Bianchotti, J. R. Vega and G. D. Puccini.....	1375
AI-Driven Maturity Stage Identification of Amazonian Fruits	
W. Marin, I. F. Mondragon and J. D. Colorado .....	1383
Effects on Time and Quality of Short Text Clustering during Real-Time Presentations	
D. Fuentealba, M. López and H. Ponce.....	1391
A Novel Hybrid (PID + MRAC) Adaptive Controller for an Air Levitation System	
M. Bomfim, E. Lima II, N. Monteiro and A. Dias.....	1400
Development of an Industrial IoT Based Monitoring System for Voltage Regulators	
C. L. Izidoro, M. A. O. Rocha, J. D. Spacek, J. M. Neto, A. D. Spacek and O. H. Ando-Junior.....	1410
Experimental Verification of the Leader-Follower Formation Control of Two Wheeled Mobile Robots with Obstacle Avoidance	
J. L. Mata-Machuca, L. F. Zarazua and R. Aguilar-López.....	1417
Correlation Between Precipitation Index and Energy Generation in Hydroelectric Plants	
G. L. L. Sousa, M. F. D. Campos and M. M. Gouvêa Jr.....	1425