



Contents of Volume 22, 2022

Volume 22	Number 1	2022
Capacity and Anisotropic Sobolev Spaces with Zero Boundary Values 1		
<i>Y. Akdim, R. Elharch, M. C. Hassib and S. Lalaoui Rhali</i>		
First Integral of a Class of Two Dimensional Kolmogorov Systems 13		
<i>R. Boukoucha</i>		
Comprehensive Description of Solutions to Semilinear Sectorial Equations: an Overview 21		
<i>Radoslaw Czaja and Tomasz Dlotko</i>		
A Geometric Study of Relative Operator Entropies 46		
<i>A. El Hilali, B. El Wahbi and M. Chergui</i>		
On the Equivalence of Lorenz System and Li System 58		
<i>Lotfi Meddour and Kheireddine Belakroum</i>		
Similarities between the Lorenz Related Systems 66		
<i>C. Morel, R. C. Vlad and J.-Y. Morel</i>		
A Mathematical Study of Wuhan Novel Coronavirus Epidemic Model 82		
<i>Sayed Sayari</i>		
Finite Element Solution to the Strongly Reaction-Diffusion System 97		
<i>Muhannad A. Shallal, Adham A. Ali and Ali M. Jasim</i>		
Global Stability and Optimal Harvesting of Predator-Prey Model with Holling Response Function of Type II and Harvesting in Free Area of Capture 105		
<i>Syamsuddin Toaha, Firman and Agustinus Ribal</i>		

Volume 22	Number 2	2022
The Geometry of Mass Distributions 117		
<i>S. B. Davis</i>		
Lyapunov-Type Inequalities for a Fractional Boundary Value Problem with a Fractional Boundary Condition 133		
<i>S. Dhar and J. T. Neugebauer</i>		

Performance Comparison of Some Two-Dimensional Chaotic Maps for Global Optimization	144
<i>A. Djaout, T. Hamaizia and F. Derouiche</i>	
Existence and Uniqueness of Solutions for a Semilinear Functional Dynamic Equation with Infinite Delay and Impulses	155
<i>C. Duque, H. Leiva and A. Tridane</i>	
Modification of the Trajectory Following Method for Asymptotic Stability in a System Nonlinear Control	169
<i>Firman, Syamsuddin Toaha, Kasbawati</i>	
Direct Torque Control of Three-Phase Induction Motor Powered by Three-Level Indirect Matrix Converter	178
<i>Ameur Khaldi, El Madjid Berkouk, Mohand Oulhadj Mahmoudi and Abdellah Kouzou</i>	
On the Existence of Periodic Solutions of a Degenerate Parabolic Reaction-Diffusion Model	197
<i>Amer Mesbahi and Salim Mesbahi</i>	
Active Fault Tolerant Synchronization of Two Hyper Chaos Lu Systems with Disturbance Input and Parametric Uncertainty	206
<i>Alireza Sabaghian and Saeed Balochian</i>	
Type-II Left Censoring of Some Finite Support Family Lifetime Distributions	218
<i>Mahmoud M. Smadi</i>	

Volume 22

Number 3

2022

The Solution of the Second Part of the 16th Hilbert Problem for a Class of Piecewise Linear Hamiltonian Saddles Separated by Conics	231
<i>R. Benterki, L. Damene and L. Baymout</i>	
Asymptotic Analysis of a Nonlinear Elliptic Equation with a Gradient Term	243
<i>A. Bouzelmate and M. EL Hathout</i>	
Existence, Uniqueness of Weak Solution to the Thermoelastic Plates	263
<i>B.El-Aqqad, J. Oudaani and A.El Mouatasim</i>	
The Effects of Pesticide as Optimal Control of Agriculture Pest Growth Dynamical Model	281
<i>T. Herlambang, A.Y.P. Asih, D. Rahmalia, D. Adzkiya and N. Aini</i>	
Solvability of Equations with Time-Dependent Potentials	291
<i>M. Mardiyana, S. Sutrima, R. Setiyowati and R. Respatiawulan</i>	
Weighted Performance Measure and Generalized H_∞ Control Problem for Linear Descriptor Systems	303
<i>A. G. Mazko</i>	
PI-Fuzzy Control Applied to the Hybrid PV / Wind Pumping System with Energy Storage	319

Ahmed Medjber, Abdelhafidh Moualdia and Abdelkader Morsli

Some Results on Controllability for a Class of Non-Integer Order Differential Equations with Impulses	330
<i>A. Raheem and M. Kumar</i>	

Equivalent Conditions and Persistence for Uniformly Exponential Dichotomy	341
<i>Sutrima Sutrima and Ririn Setiyowati</i>	

Volume 22 Number 4 2022

Functional Differential Inclusions with Unbounded Right-Hand Side in Banach Spaces	355
<i>H. Chouial and M. F. Yarou</i>	

SOFC-PV System with Storage Battery Based on Cuckoo Search Algorithm	367
<i>Hamidia Fethia and Abbadi Amel</i>	

Application of Accretive Operators Theory to Linear SIR Model	379
<i>Mariam El Hassnaoui, Said Melliani and Mohamed Oukessou</i>	

Design of Navigation and Guidance Control System of Mobile Robot with Position Estimation Using Ensemble Kalman Filter (EnKF) and Square Root Ensemble Kalman Filter (SR-EnKF)	390
<i>T. Herlambang, F. A. Susanto, D. Adzkiya, A. Suryowinoto and K. Oktafianto</i>	

On the Dynamics of a Class of Planar Differential Systems	400
<i>A. Kina and A. Bendjeddou</i>	

Chaos Synchronization between Fractional-Order Lesser Date Moth Chaotic System and Integer-Order Chaotic System via Active Control	407
<i>M. Labid and N. Hamri</i>	

New Design of Stability Study for Linear and Nonlinear Feedback Control of Chaotic Systems	414
<i>W. Laouira and N. Hamri</i>	

Control of a Shunt Active Power Filter by the Synchronous Referential Method Connected with a Photovoltaic Solar Energy	424
<i>A. Morsli, A. Tlemcani and H. Nouri</i>	

A Neural Network Approximation for a Model of Micromagnetism	432
<i>M. Moumni and M. Tilioua</i>	

A New Fractional-Order Three-Dimensional Chaotic Flows with Identical Eigenvalues	447
<i>S. Rouar and O. Zehrou</i>	

Estimation of Closed Hotels and Restaurants in Jakarta as Impact of Corona Virus Disease (Covid-19) Spread Using Backpropagation Neural Network	457
<i>F. A. Susanto, M. Y. Anshori, D. Rahmalia, K. Oktafianto, D. Adzkiya, P. Katias and T. Herlambang</i>	

Stabilization of Chaotic h -Difference Systems with Fractional Order	468
<i>Hasna Yousfi, Ahlem Gasri and Adel Ouannas</i>	
Volume 22	Number 5
	2022
Analysis of an Antiplane Thermo-Electro-Viscoelastic Contact Problem with Long-Term Memory	473
<i>L. Benziane and N. Lebri</i>	
Controllability of Dynamic Equations with Memory	489
<i>Martin Bohner, Cosme Duque and Hugo Leiva</i>	
A Dynamic Contact Problem for Piezo-Thermo-Elastic-Viscoplastic Materials with Damage	503
<i>L. Debbacha and N. Lebri</i>	
A Dynamic Contact Problem between Viscoelastic Piezoelectric Bodies with Friction and Damage	522
<i>M. L. Gossa, T. Hadj Ammar and K. Saoudi</i>	
Exact Controllability of the Reaction-Diffusion Equation under Bilinear Control ...	538
<i>M. Jidou Khayar, A. Brouri and M. Ouzahra</i>	
The Analysis of Demand and Supply of Blood in Hospital in Surabaya City Using Panel Data Regression	550
<i>A. Muhith, I. H. Susanto, D. Rahmalia, D. Adzkiya and T. Herlambang</i>	
Effect of Water Scarcity in the Society: A Mathematical Model	561
<i>K. Siva and S. Athithan</i>	
Frictional Contact Problem for Thermoviscoelastic Materials with Internal State Variable and Wear	573
<i>S. Smata and N. Lebri</i>	
Contents of Volume 22, 2022	586