

VOLUME 7 ISSUE 4
ISSN 2651-4001

December 2024
www.dergipark.org.tr/en/pub/cams

COMMUNICATIONS IN ADVANCED MATHEMATICAL SCIENCES



Editor in Chief

Emrah Evren Kara
Department of Mathematics
Faculty of Science and Arts, Düzce University
Düzce-Türkiye
eevrenkara@duzce.edu.tr

Managing Editor

Mahmut Akyigit
Department of Mathematics
Faculty of Science, Sakarya University
Sakarya-Türkiye
makyigit@sakarya.edu.tr

Editorial Board

Iosif Pinelis
Michigan Technological University
U.S.A

Francisco Javier García-Pacheco
Universidad de Cádiz
Spain

Kemal Taşköprü
Bilecik Şeyh Edebali University
Türkiye

Serkan Demiriz
Tokat Gaziosmanpaşa University
Türkiye

Victor Kwok Pun Ho
The Education University of Hong Kong
Hong Kong

Ayse Yilmaz Ceylan
Akdeniz University
Türkiye

Taja Yaying
Dera Natung Government College
India

Zafer Şiar
Bingöl University
Türkiye

Language Editor

Mustafa Serkan Öztürk
Ahmet Kelesoglu Faculty of Education
Necmettin Erbakan University
Konya-Türkiye

Technical Editor

Arzu Özkoç Öztürk
Department of Mathematics
Duzce University
Düzce-Türkiye

Zülal Misir
Department of Mathematics
Sakarya University
Sakarya-Türkiye

Indexing and Abstracting



Contents

Research Article

- | | | |
|---|--|---------|
| 1 | Energy Dissipation in Hilbert Envelopes on Motion Waveforms Detected in Vibrating Dynamical Systems: An Axiomatic Approach
<i>James F. Peter, Tharaka U. Liyanage</i> | 178-186 |
| 2 | Existence and Uniqueness of Solutions for Nonlinear Fractional Differential Equations with \mathcal{U} -Caputo Fractional Differential Equations
<i>Abduljawad Khairi Anwar</i> | 187-198 |
| 3 | On the Diophantine Equation $(8r^2 + 1)^x + (r^2 - 1)^y = (3r)^z$ Regarding Terai's Conjecture
<i>Tuba Çokoksen, Murat Alan</i> | 199-211 |
| 4 | On Some New Rhaly Sequence Spaces and Rhaly Sections in BK-Space
<i>Abdulaziz Daş, Bilal Altay</i> | 212-219 |
| 5 | Solitons on Nearly Cosymplectic Manifold Exhibiting Schouten Van Kampen Connection
<i>Pushpa Bora, Jaya Upadhyay, Shankar Kumar</i> | 220-228 |