

# CONGRESSES BOOK

## IMAEC 5. Uluslararası Matematik, Mimarlık ve Mühendislik Kongresi

[www.ubsder.org](http://www.ubsder.org)



ONLINE



FACE TO FACE



5 - 6 Kasım, 2022  
Saraybosna



---

ISSUED: 30. 11.2022

ISBN: 978-625-6997-04-2

---



## UBSDER CONGRESSES

### IMAEC 5th International Mathematic, Architecture and Engineering Conference

*Edited by*

*Dr. Nadire Kantarciođlu*

#### CONGRESS ORGANIZING BOARD

Head of CONGRESS: Dr. Nadire Kantarciođlu

Head of Organizing Board: Dr Göltekin Gölurçay

Organizing Committee Member: Prof Dr.Höllya Çiçek Kanbur

Organizing Committee Member: Prof. Dr. Həcər Hölseynova

Organizing Committee Member: Doç.F.öl.f.d., İradə Kərimova

Organizing Committee Member: Aynurə Əliyeva

Organizing Committee Member: Prof Dr. Raihan Yusoph

Organizing Committee Member: Dr.Amaneh Manafidizaji

All rights of this book belong to Academic Sharing Platform Company  
Publishing House Without permission cannot be duplicate or copied.  
Authors of chapters are responsible both ethically and juridically.

*Academic Sharing Platform – 2022 ©*

Issued: 30. 11.2022

ISBN: 978-625-6997-04-2

## ABOUT CONGRESS

---

### UBSDER CONGRESSES

IMAEC 5th International Mathematic, Architecture and Engineering  
Conference

#### DATE - PLACE

NOVEMBER 5-6, 2022  
SARAJEVO

#### ORGANIZATION

*UBS International Scientific Research and Strategy Development Association*

#### EVALUATION PROCESS

All applications have undergone a double-blind peer review process.

#### PARTICIPATED COUNTRIES

Turkey - Iran - India - Kazakhstan - Libya - Nigeria -

#### PRESENTATION

Oral presentation

#### PERCENTAGE OF PARTICIPATION

45% FROM Turkey And 55% From Other Countries

#### LANGUAGES

Turkish, English, Russian

## SCIENTIFIC & REVIEW COMMITTEE

Prof. Goodarz Ahmadi, Clarkson University, USA

Dr. Chandra Mohan, NIT Warangal, India

Prof. J. K. Che, University of Missouri Columbia, USA

Dr Chi Hieu Le, United Kingdom

Prof. Dr. Alaa Hussein, University of Basrah, Iraq

Prof. Dr. Ana Catarina Valle, Izaos Soares Institute, Germany

Prof. Dr. Agustin Luna, National Scientific and Technical Research Council, Argentina

Assoc. Prof. Dr. Radomir Savić, University of Belgrade,

Assist. Prof. Dr. Azamat Maksudunov, Kyrgyz-Turkish Manas University, Kyrgyzstan

Dr. Jinning Hong, Newman University, Birmingham

Assist. Prof. Ali Vandshoari, Tabriz Islamic Art University, Iran

Dr. Mohammed-Aminu Sanda, University of Ghana Business School, Ghana

Prof. Dr. Assel Jumasseitova, Kazakh British Technical University, Kazakhstan

Prof. Dr. Ofuan James Ilaboya, University of Benin, Nigeria

Dr. Zarqa Shaheen, University of Auckland, New Zealand

Dr. Sabiha Akhter, Torrens University Australia

Assist. Prof. Dr. Omar Jawabreh, The University of Jordan, Jordan

Assist. Prof. Dr. Mohammad Ayaz, University of Management and Technology, Pakistan

Dr. Maria Antonopoulou, Panteion University of Political and Social Sciences, Greece

Dr. Ruba Hamed, Al Yamamah University, Saudi Arabia

Dr. Carolien Van Den Berg, University of the Western Cape, South Africa

Prof. Dr. Charita Jashi, Tbilisi State University, Georgia

Prof. Dr. Arnoldus De Beer, Stellenbosch University, South Africa

Prof. Dr. Mustafa Bayram, Biruni University, Turkey

Prof. Dr. Ergun Koca, Girne University, Cyprus



UBSDER 5th INTERNATIONAL CONGRESSES  
November 5 – 6. 2022  
Sarajevo



UBSDER 5th INTERNATIONAL CONGRESSES  
November 5 – 6. 2022  
Sarajevo

**CONGRESS PROGRAM**  
**Online (with Video Conference) Presentation**

Join Zoom Meeting

<https://us02web.zoom.us/j/85827150099?pwd=SWYvQzBlbXhpWlpESTFzV3IYY0N6UT09>

Meeting ID: 858 2715 0099

Passcode: 561122







UBSDER 5th INTERNATIONAL CONGRESSES  
November 5 – 6. 2022  
Sarajevo



**IMPORTANT, PLEASE READ CAREFULLY**

- To be able to make a meeting online, login via <https://zoom.us/join> site, enter ID instead of “Meeting ID or Personal Link Name” and solidify the session.
- The Zoom application is free and no need to create an account.
- The Zoom application can be used without registration.
- The application works on tablets, phones and PCs.
- Speakers must be connected to the session **10 minutes before** the presentation time.
- All congress participants can connect live and listen to all sessions.
- During the session, your camera should be turned on **at least %70** of session period
- Moderator is responsible for the presentation and scientific discussion (question-answer) section of the session.

**TECHNICAL INFORMATION**

- Make sure your computer has a microphone and is working.
- You should be able to use screen sharing feature in Zoom.
- Attendance certificates will be sent to you as pdf at the end of the congress.
- Moderator is responsible for the presentation and scientific discussion (question-answer) section of the session.
- Before you login to Zoom please indicate your name surname and hall number,

**exp. H-..., S- ... NAME SURNAME**



UBSDER 5th INTERNATIONAL CONGRESSES  
November 5 – 6. 2022  
Sarajevo



## ILFEMC CONGRESS

06.11.2022

HALL: 1

SESSION: 1

Meeting ID: 858 2715 0099

Passcode: 561122

10:00 – 12:00 (Turkey Local Time)

MODERATOR: **DR. METİN PEHLİVAN**

DR. METİN PEHLİVAN

Tarafların Ölümü, Ölüm Karinesi Ya Da Gaipliğinin İş Sözleşmesine Etkisi

ASST. PROF. BUKET  
ÇATAKOĞLU AYDIN

Conditions For An Investment Contract To Be A Capital Market Instrument

ZAFER HERAND

Sosyal Medya Yoluyla İşlenen Hakaret Suçu

FATİH KAYHAN  
ONUR ÖZDEMİR

A Literature Review On The Relation Between Polarized Political Environment And Investment  
Decisions



UBSDER 5th INTERNATIONAL CONGRESSES  
November 5 – 6. 2022  
Sarajevo



## ILFEMC CONGRESS

06.11.2022

HALL: 1

SESSION: 1

Meeting ID: 858 2715 0099

Passcode: 561122

10:30 – 12:30 (Turkey Local Time)

MODERATOR: **MAHDI KARIMI**

MAHDI KARIMI

The Role of the Accused's Attorney in the Criminal Justice System of Iran, Mashhad 2014

NOORANEDA MUTALIP LAIDEY

Privacy vs. National Security: Where Do We Draw the Line?

KHADIJA ALI

Sexual and Gender Based Crimes in International Criminal Law: Moving Forwards or Backwards?

YRFET SHKRELI

The Role of European Union in Global Governance

UMAR UBANDAWAKI

Controlling Youths Participation in Politics in Sokoto State: A Constructive Inclusiveness for Good Governance in Nigeria





UBSDER 5th INTERNATIONAL CONGRESSES  
November 5 – 6. 2022  
Sarajevo



## IESBSC CONGRESS

06.11.2022

HALL: 2

SESSION: 1

Meeting ID: 858 2715 0099

Passcode: 561122

10: 30 – 12: 30 (Turkey Local Time)

MODERATOR

**SIMIN SADEGHI-SAEB**

SAMAL ABZHANOVA,  
SAULE MUSSABEKOVA

The Effectiveness of Implementing Interactive Training for Teaching Kazakh Language

SIMIN SADEGHI-SAEB

Using Metacognitive Strategies in Reading Comprehension by EFL Students

ABDUL ROFIQ BADRIL RIZAL  
MUZAMMIL

The Investment of Islamic Education Values toward Children in the Early Age through Story-Telling Method

IBRAHEEM ALZHRANI

The Role of the Constructivist Learning Theory and Collaborative Learning Environment on Wiki Classroom and the Relationship between Them

R. M. KASHIM

The Conceptual and Procedural Knowledge of Rational Numbers in Primary School Teachers



UBSDER 5th INTERNATIONAL CONGRESSES  
November 5 – 6. 2022  
Sarajevo



IMAEC CONGRESS	
06.11.2022	HALL: 3
SESSION: 1	Meeting ID: 858 2715 0099
	Passcode: 561122
	10: 00 – 12: 00 (Turkey Local Time) MODERATOR: <b>DR. Nadire Kantarcıođlu</b>
EMRE GEMİCİ YAŞAR PALA	Vibration Analysis Of Beams With Intermediate Supports Under Moving Loads
GÜL AKAR ŞEN VEDAT ARSLAN ÖZGE GÖK FATİH TURAN	Kömür Kükürt Türlerinin Belirlenmesinde Mikrodalga Çözünürleştirme Sisteminin Kullanımı
SÜNDÜS KAZANCI HASAN HÜSEYİN ÖKTEN	J-Tümlenmiş Kafesler



UBSDER 5th INTERNATIONAL CONGRESSES  
November 5 – 6. 2022  
Sarajevo



IMAEC CONGRESS	
06.11.2022	HALL: 3
SESSION: 1	
Meeting ID: 858 2715 0099      Passcode: 561122	
	10: 30 – 12: 30 (Turkey Local Time)      MODERATOR: <b>A. KULANDAI THERESE</b>
KAZEM GHANBARI YOUSEF GHOLAMI	Lyapunov Type Inequalities for Fractional Impulsive Hamiltonian Systems
A. DANBABA	Construction and Analysis of Samurai Sudoku
WAJDI MOHAMED RATEMI	A Generalization of Planar Pascal's Triangle to Polynomial Expansion and Connection with Sierpinski Patterns
ANDREY V. TIMOFEEV DMITRY V. EGOROV	The Optimization of Decision Rules in Multimodal Decision-Level Fusion Scheme
A. KULANDAI THERESE	Eccentric Connectivity Index, First and Second Zagreb Indices of Corona Graph



UBSDER 5th INTERNATIONAL CONGRESSES  
November 5 – 6. 2022  
Sarajevo



IMVHSC CONGRESS

06.11.2022

HALL: 1

SESSION: 2

Meeting ID: 858 2715 0099

Passcode: 561122

14: 00 – 16:00 (Turkey Local Time)

MODERATOR: DR. NADİRE KANTARCIOĞLU

OZLEM TURGUT  
OZLEM ERGUL ERKEC  
ZUBEYİR HUYUT  
BÜNYAMİN UCAR

Effects Of Betahistine On Seizure Latency And Inflammatory Parameters In Ptz-Induced Acute Seizure Model In Rats

EVREN HASAN ŞEN  
HABİP MURUZ

Süt Sığırlarında Hingut Asidoz: Kontrolü İçin Stratejiler

K.R.PADMA  
K.R.DON

Paving New Roads With Mesenchymal Stem Cell Derived Exosomes: A Promising Approach In Tissue Regeneration-An Update





UBSDER 5th INTERNATIONAL CONGRESSES  
November 5 – 6. 2022  
Sarajevo



IMVHSC CONGRESS		
06.11.2022	HALL: 1	SESSION: 2
		Meeting ID: 858 2715 0099      Passcode: 561122
		14: 30 – 16:30 (Turkey Local Time)      MODERATOR: SALAMA MEGHRICHE
ELHAM RASTEGARI AMIRMASOOD RAHMANI SAEED SETAYESHI		Pervasive Computing in Healthcare Systems
S.S.MOHANAVALLI SHEILA ANAND		Security Architecture for At-Home Medical Care Using Sensor Network
SALAMA MEGHRICHE AMER DRAA MOHAMMED BOULEMDEN		On The Analysis of a Compound Neural Network for Detecting Atrio Ventricular Heart Block (AVB) in an ECG Signal
FAHAD SHAHBAZ KHAN FAHAD MAQBOOL SAAD RAZZAQ KASHIF IRFAN TEHSEEN ZIA		The Role of Medical Expert Systems in Pakistan
RAKMI ABD.-RAHMAN NURINA ANUAR		Pentachlorophenol Removal via Adsorption and Biodegradation



UBSDER 5th INTERNATIONAL CONGRESSES  
November 5 – 6. 2022  
Sarajevo



**ICCAC CONGRESS**

06.11.2022

HALL: 2

SESSION: 2

Meeting ID: 858 2715 0099

Passcode: 561122

14: 00 – 16: 00 (Turkey Local Time)

MODERATOR: HÜSEYİN YILMAZ

HÜSEYİN YILMAZ

Okul Öncesi Öğretmen Adaylarının Çalgı (Ukulele) Eğitimine Yönelik Güdülenme Düzeyleri

BANU ERŞANLI TAŞ

Pikseller Boyalara Karşı: Netflıx Kamusal Alan Tasarımları Üzerine Bir İnceleme

MUTLU KÖPÜKLÜ

18. Ve 19. Yy. Tokat Yöresi Örgü Kulplu Seramik Testi Formlarına Genel Bir Bakış

ARŞ. GÖR. DR. CÜNEYT ÖBEK

Geleneğin Bir Temsilcisi Olarak: Kemeçevî Ve Bestekâr Kemal Niyazi Seyhun

AR.GÖR.CANAN GÜNEŞ

The Use Of Principle Of Contrast On Ceramics Works And Its Effects On The Viewer: An Example Of The Ceramics Artist Fran Maguire



UBSDER 5th INTERNATIONAL CONGRESSES  
November 5 – 6. 2022  
Sarajevo



## ICCAC CONGRESS

06.11.2022

HALL: 2

SESSION: 2

Meeting ID: 858 2715 0099

Passcode: 561122

**14: 30 – 16: 30** (Turkey Local Time)

**MODERATOR: KHLYSTUN YULIIA IGORIVNA**

YERBOL B. KAIRANOV  
ARNUR ZH. KARYMSAKOV

The Influence of Ancient Artifacts on Contemporary Culture (exemplified by the Painting and Sculpture of Kazakhstan)

SVETLANA PEROVIĆ

Niksic in the Context of Visual Urban Culture

S. CHOODOUNG  
U. SMUTKUPT

Factors of Successful Wooden Furniture Design Process

KHLYSTUN YULIIA IGORIVNA

The Use of Symbolic Signs in Modern Ukrainian Monumental Church Painting: Classification and Hidden Semantics

SHAZA MELIES  
ABEER REFKY  
NIHAD MANSOOR

Pictorial Multimodal Analysis of Selected Paintings of Salvador Dali

KUSSAIN MARDEN

The Architectural and Imaginary Spaces of the Anime Models



UBSDER 5th INTERNATIONAL CONGRESSES  
November 5 – 6. 2022  
Sarajevo



## IESBSC CONGRESS

06.11.2022

HALL: 3

SESSION: 2

Meeting ID: 858 2715 0099

Passcode: 561122

14: 00 – 16: 00 (Turkey Local Time)

MODERATOR **ÖĞR. GÖR. DR. BARIŞ DEMİREL**

ÖĞR. GÖR. DR. BARIŞ DEMİREL

An Examination Of The Miracle In Ward 7. With The Social Work Discipline

GÜLDEM DÖNEL AKGÜL  
ERHAN KARA  
YAĞMUR ÜRAL

Analogical Examples Of Candidates Of Science Teachers For The Immunity System

GÜLDEM DÖNEL AKGÜL  
MELİKE VARLIK  
ERHAN KARA

Educational Digital Game Designed For The Topic Of Grade 5 Biodiversity: Where Am I?

HACER DENİZ  
SEZGİN DEMİR

Yazma Öz Düzenleme Yetkinliği Ölçeği'nin Geliştirilmesi: Geçerlik Ve Güvenirlik Çalışması

ZOHAIB HASSAN SAIN

Challenges in Quality of Education in Higher Education Institutions (HEIs) of Pakistan

DR. ÖĞR. ÜYESİ YUNUS EMRE  
AKBAY  
ZEHRA RÜVEYDA ASLAN

Epikür Ve Stoacıların Kavram Teorileri Üzerine Mantıksal Bir Analiz





## UBSDER CONGRESSES

### IMAEC 5th International Mathematic, Architecture and Engineering Conference

*Edited by*

*Dr. Nadire Kantarciođlu*

#### CONGRESS ORGANIZING BOARD

Head of CONGRESS: Dr. Nadire Kantarciođlu

Head of Organizing Board: Dr Göltekin Gölurçay

Organizing Committee Member: Prof Dr.Höllya Çiçek Kanbur

Organizing Committee Member: Prof. Dr. Həcər Hölseynova

Organizing Committee Member: Doç.F.ö.f.d., İradə Kərimova

Organizing Committee Member: Aynurə Əliyeva

Organizing Committee Member: Prof Dr. Raihan Yusoph

Organizing Committee Member: Dr.Amaneh Manafidizaji

All rights of this book belong to Academic Sharing Platform Company  
Publishing House Without permission cannot be duplicate or copied.  
Authors of chapters are responsible both ethically and juridically.

*Academic Sharing Platform – 2022 ©*

Issued: 30. 11.2022

ISBN: 978-625-6997-04-2

## ABOUT CONGRESS

---

### UBSDER CONGRESSES

IMAEC 5th International Mathematic, Architecture and Engineering  
Conference

#### DATE - PLACE

NOVEMBER 5-6, 2022  
SARAJEVO

#### ORGANIZATION

*UBS International Scientific Research and Strategy Development Association*

#### EVALUATION PROCESS

All applications have undergone a double-blind peer review process.

#### PARTICIPATED COUNTRIES

Turkey - Iran - India - Kazakhstan - Libya - Nigeria -

#### PRESENTATION

Oral presentation

#### PERCENTAGE OF PARTICIPATION

45% FROM Turkey And 55% From Other Countries

#### LANGUAGES

Turkish, English, Russian

## SCIENTIFIC & REVIEW COMMITTEE

Prof. Goodarz Ahmadi, Clarkson University, USA

Dr. Chandra Mohan, NIT Warangal, India

Prof. J. K. Che, University of Missouri Columbia, USA

Dr Chi Hieu Le, United Kingdom

Prof. Dr. Alaa Hussein, University of Basrah, Iraq

Prof. Dr. Ana Catarina Valle, Izaos Soares Institute, Germany

Prof. Dr. Agustin Luna, National Scientific and Technical Research Council, Argentina

Assoc. Prof. Dr. Radomir Savić, University of Belgrade,

Assist. Prof. Dr. Azamat Maksudunov, Kyrgyz-Turkish Manas University, Kyrgyzstan

Dr. Jinning Hong, Newman University, Birmingham

Assist. Prof. Ali Vandshoari, Tabriz Islamic Art University, Iran

Dr. Mohammed-Aminu Sanda, University of Ghana Business School, Ghana

Prof. Dr. Assel Jumasseitova, Kazakh British Technical University, Kazakhstan

Prof. Dr. Ofuan James Ilaboya, University of Benin, Nigeria

Dr. Zarqa Shaheen, University of Auckland, New Zealand

Dr. Sabiha Akhter, Torrens University Australia

Assist. Prof. Dr. Omar Jawabreh, The University of Jordan, Jordan

Assist. Prof. Dr. Mohammad Ayaz, University of Management and Technology, Pakistan

Dr. Maria Antonopoulou, Panteion University of Political and Social Sciences, Greece

Dr. Ruba Hamed, Al Yamamah University, Saudi Arabia

Dr. Carolien Van Den Berg, University of the Western Cape, South Africa

Prof. Dr. Charita Jashi, Tbilisi State University, Georgia

Prof. Dr. Arnoldus De Beer, Stellenbosch University, South Africa

Prof. Dr. Mustafa Bayram, Biruni University, Turkey

Prof. Dr. Ergun Koca, Girne University, Cyprus

## VIBRATION ANALYSIS OF BEAMS WITH INTERMEDIATE SUPPORTS UNDER MOVING LOADS

**Emre Gemici**

Bursa Uludağ Üniversitesi

**Yaşar Pala**

Bursa Uludağ Üniversitesi

### ABSTARCT

In this study, transverse vibration of a beam under moving load and moving moment is investigated. A simply supported beam with intermediate vertical supports modeled according to Euler-Bernoulli beam theory. Supports are modeled as linear spring and linear damper. Force, moment, spring and damper components are expressed using Dirac delta function in equation of motion. Obtaining exact solution for this problem with classical methods are quite lengthy and complicated. Beam must be divided into spans between each support. Each span must be solved separately with different set of coordinates having same boundary conditions on support points. As the number of support increases, solution becomes more complicated. However, the present method can be used to solve the problem for the whole beam length without having to separate into various spans regardless of number of supports. Dirac delta functions are converted to series expansions which allows us to get exact solution in form of series expansion. This solution than can be easily calculated by a computer. Dynamic responses of several cases such as various number of supports; different support points; various moving load, moving moment and axial load combinations are examined.

**Key Words:** Moving load, moving moment, beam, intermediate supports

[www.ubsder.org](http://www.ubsder.org)



## KÖMÜR KÜKÜRT TÜRLERİNİN BELİRLENMESİNDE MİKRODALGA ÇÖZÜNÜRLEŞTİRME SİSTEMİNİN KULLANIMI

**Gül AKAR ŞEN**

Dokuz Eylül Üniversitesi  
- 0000-0002-9277-3961

**Vedat ARSLAN**

Dokuz Eylül Üniversitesi  
-0000-0003-4626-8697

**Özge GÖK**

Dokuz Eylül Üniversitesi  
– 0000-0002-0095-8206

**Fatih TURAN**

Dokuz Eylül Üniversitesi  
0000-0002-9969-0405

### ÖZET

Enerji bireylerin yaşantılarında en temel ihtiyaçlardan biri olduğu gibi ülkelerin endüstriyel gelişimlerini tamamlama, bilgi ve teknoloji toplumuna dönüşme yolunda büyük önem taşıyan bir girdidir. Ülkelerin enerji ihtiyacı; nüfus, sosyal, ekonomik ve endüstriyel gelişmişlik düzeyleri gibi bazı faktörlere bağlı olarak şekillenmektedir. Kalkınmanın önemli girdilerinden biri olan elektrik enerjisinin çevresel etkilerinin de gözetilerek yeterli miktarda ve yüksek verim değerleri ile üretimi büyük önem taşımaktadır. Üretim aşamaları açısından güvenli ve yan etkileri açısından güvenilir, yeni sistemlerin geliştirilmesi var olan ve bu aşamada vazgeçilmez gibi görünen sistemlerin çevre ile uyumlu, daha verimli bir hale getirilmesi şeklinde özetlenebilir. Bu amaçla bu sektörlerde enerji üretimi için kullanılan kömürlerin kimyasal bileşimleri özellikle yanma sonrası oluşan kükürt salınımlarının belirlenmesi açısından çok önemlidir. Bu bağlamda yapılan bu çalışmada; kömür ve kömür külü içeriğinde bulunan majör elementler ile kükürt içeriği klasik kimyasal analiz ve alternatif bir yöntem olan mikrodalga çözünürleştirme sistemi yardımı ile iki aşamalı olarak analiz edilmiştir. Yapılan analizler sonucunda; kükürt türlerinin (pritik, organik ve sülfatık) daha kısa sürede belirlenebildiği tesbit edilmiştir.

**Anahtar Kelimeler :** Kömür , Kükürt Analizi, Mikrodalga Yakma Sistemi

## J-TÜMLENMIŞ KAFESLER

**Sündüs KAZANCI**

Amasya Üniversitesi

**Hasan Hüseyin ÖKTEN**

Amasya Üniversitesi

- 0000-0002-7886-0815

### ÖZET

$L$  bir kafes ve  $a \in L$  olsun.  $Rad(1/b) = 1$  koşulunu sağlayan her  $b \in L$  için  $a \vee b = 1$  iken  $b = 1$  oluyorsa,  $a$  elemanına  $L$  kafesi içinde  $J$ -küçüktür denir ve  $a \ll_J L$  şeklinde gösterilir.  $L$  bir kafes ve  $a, b \in L$  elemanları için,  $a \vee b = 1$  ve  $a \wedge b \ll_J b/0$  oluyorsa  $b$ 'ye,  $a$ 'nın  $L$  içinde bir  $J$ -tümleyeni denir. Bu çalışmada, kafeslerde  $J$ -küçük eleman kavramı tanımlanmış ve bu elemanların bazı özellikleri incelenmiştir.  $J$ -küçük eleman tanımı kullanılarak,  $J$ -tümlemiş eleman ve  $J$ -tümlemiş kafes tanımları yapılmıştır.

**Anahtar Kelimeler :** Kafes, Kafeslerde Küçük Elemanlar, Kafeslerde Tümleyenler, Radikal.

### REFERANSLAR

1. Robert, W. (2018). *Foundations of Module and Ring Theory: A handbook for study and research*. Routledge.
2. Calugareanu, G. (2013). *Lattice concepts of module theory* (Vol. 22). Springer Science & Business Media.
3. Ali, A., & Khalid, W. (2020, May).  $\oplus$ - $J$ -supplemented modules. In *Journal of Physics: Conference Series* (Vol. 1530, No. 1, p. 012056). IOP Publishing.
4. Kabban, A., & Khalid, W. (2019). On Jacobson-Small Submodules. *Iraqi Journal of science*, 1584-1591.

## Lyapunov Type Inequalities for Fractional Impulsive Hamiltonian Systems

**Kazem Ghanbari, Yousef Gholami**

Department of Applied Mathematics, Sahand University of Technology, Tabriz, Iran

### **Abstract:**

This paper deals with study about fractional order impulsive Hamiltonian systems and fractional impulsive Sturm-Liouville type problems derived from these systems. The main purpose of this paper devotes to obtain so called Lyapunov type inequalities for mentioned problems. Also, in view point on applicability of obtained inequalities, some qualitative properties such as stability, disconjugacy, nonexistence and oscillatory behaviour of fractional Hamiltonian systems and fractional Sturm-Liouville type problems under impulsive conditions will be derived. At the end, we want to point out that for studying fractional order Hamiltonian systems, we will apply recently introduced fractional Conformable operators.

**Keywords:** Fractional derivatives and integrals, Hamiltonian system, Lyapunov type inequalities, stability, disconjugacy.

[www.ubsder.org](http://www.ubsder.org)

## Construction and Analysis of Samurai Sudoku

**A. Danbaba**

Department of Mathematic, Usmanu Danfodyo University, Nigeria

### **Abstract:**

Samurai Sudoku consists of five Sudoku square designs each having nine treatments in each row (column or sub-block) only once such the five Sudoku designs overlaps. Two or more Samurai designs can be joint together to give an extended Samurai design. In addition, two Samurai designs, each containing five Sudoku square designs, are mutually orthogonal (Graeco). If we superimpose two Samurai designs and obtained a pair of Latin and Greek letters in each row (column or sub-block) of the five Sudoku designs only once, then we have Graeco Samurai design. In this paper, simple method of constructing Samurai designs and mutually orthogonal Samurai design are proposed. In addition, linear models and methods of data analysis for the designs are proposed.

**Keywords:** Samurai design, Graeco samurai design, sudoku design, row or column swap.

[www.ubsder.org](http://www.ubsder.org)



## A Generalization of Planar Pascal's Triangle to Polynomial Expansion and Connection with Sierpinski Patterns

**Wajdi Mohamed Ratemi**

Nuclear Engineering Department, University of Tripoli, Tripoli, Libya

### **Abstract:**

The very well-known stacked sets of numbers referred to as Pascal's triangle present the coefficients of the binomial expansion of the form  $(x+y)^n$ . This paper presents an approach (the Staircase Horizontal Vertical, SHV-method) to the generalization of planar Pascal's triangle for polynomial expansion of the form  $(x+y+z+w+r+\dots)^n$ . The presented generalization of Pascal's triangle is different from other generalizations of Pascal's triangles given in the literature. The coefficients of the generalized Pascal's triangles, presented in this work, are generated by inspection, using embedded Pascal's triangles. The coefficients of I-variables expansion are generated by horizontally laying out the Pascal's elements of (I-1) variables expansion, in a staircase manner, and multiplying them with the relevant columns of vertically laid out classical Pascal's elements, hence avoiding factorial calculations for generating the coefficients of the polynomial expansion. Furthermore, the classical Pascal's triangle has some pattern built into it regarding its odd and even numbers. Such pattern is known as the Sierpinski's triangle. In this study, a presentation of Sierpinski-like patterns of the generalized Pascal's triangles is given. Applications related to those coefficients of the binomial expansion (Pascal's triangle), or polynomial expansion (generalized Pascal's triangles) can be in areas of combinatorics, and probabilities.

**Keywords:** Generalized Pascal's triangle, Pascal's triangle, polynomial expansion, Sierpinski's triangle, staircase horizontal vertical method.

[www.ubsder.org](http://www.ubsder.org)

**THE OPTIMIZATION OF DECISION RULES IN MULTIMODAL DECISION-LEVEL  
FUSION SCHEME**

**Andrey V. Timofeev, Dmitry V. Egorov**

LPP “EqualiZoom”, Astana, 010000, Kazakhstan

LPP “Equali Zoom”, Astana, 010000, Kazakhstan

**Abstract:**

This paper introduces an original method of parametric optimization of the structure for multimodal decisionlevel fusion scheme which combines the results of the partial solution of the classification task obtained from assembly of the mono-modal classifiers. As a result, a multimodal fusion classifier which has the minimum value of the total error rate has been obtained.

**Keywords:** Classification accuracy, fusion solution, total error rate.

[www.ubsder.org](http://www.ubsder.org)

## Eccentric Connectivity Index, First And Second Zagreb Indices Of Corona Graph

**A. Kulandai Therese**

Associate professor in Mathematics, Nirmala College for Women, Tamil Nadu, India

**Abstract:**

The eccentric connectivity index based on degree and eccentricity of the vertices of a graph is a widely used graph invariant in mathematics. In this paper, we present the explicit eccentric connectivity index, first and second Zagreb indices for a Corona graph and sub division related corona graphs.

**Keywords:** Corona graph, Degree, Eccentricity, Eccentric Connectivity Index, First Zagreb index, Second Zagreb index and Subdivision graphs.

[www.ubsder.org](http://www.ubsder.org)