Knowledge • Sincerity • Excellent

RCAEM-II 2012

Proceedings of

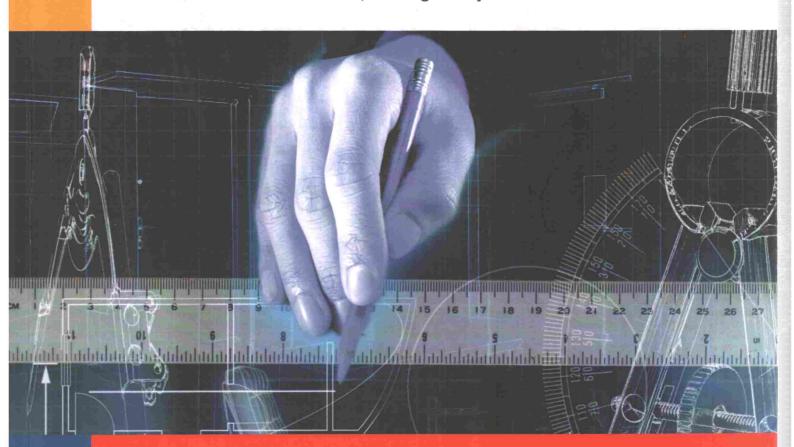
2nd Regional Conference on

Applied and Engineering

Mathematics 2012

30-31 May 2012

Eastern & Oriental Hotel, Penang Malaysia



"Mathematics Beyond Arithmetic: Constructing the Future, Challenging the Past"

Editors

W. Z. A. Wan Muhamad Wan Suhana Wan Daud Ahmad Kadri Junoh Muhammad Zaini Ahmad Mohd Syafarudy Abu Lim Eng Aik Wan Mohd Khairy Adly Wan Zaimi Nursalasawati Rusli Elyana Sakib Nor Ashikin Abu Bakar Nurhidayah Omar Syafawati Ab Saad Rohana Abdul Hamid Farah Adibah Adnan Alezar Mat Ya'acob Noor Adila Aluwi Shakir Published by:

Penerbit Institut Matematik Kejuruteraan

Universiti Malaysia Perlis Jalan Serawak, Taman Bukit Kubu Jaya, 02000 Kuala Perlis, Perlis.

Tel: (04)-9855430, Fax: (04)-9855432

Email: imk@unimap.edu.my Website: http://imk.unimap.edu.my

© Penerbit Institut Matematik Kejuruteraan, UniMAP 2012.

All rights reserved. No part of this publication may be reproduced or transmitted in any form or any means, electronic or mechanical including photocopy, recording or any information storage and retrieval system, without permission in writing from Copyright Manager, Penerbit Institut Matematik Kejuruteraan, UniMAP.

Perpustakaan Negara Malaysia

Cataloguing-in-Publication Data

Proceedings of 2nd Regional Conference on Applied and Engineering Mathematics / Wan Zuki Azman Wan Muhamad ... [et al.]
ISBN 978-967-11189-00

Printed in Malaysia

Cover design by: Infografik Design Consultants No. 333-F, Floor 1 & 2, Jalan Teluk Wanjah 05200 Alor Setar, Kedah

DISCLAIMER

This proceedings was prepared as a collection of papers presented at 2nd Regional Conference on Applied and Engineering Mathematics organized by Institute of Engineering Mathematics (IMK), Universiti Malaysia Perlis. IMK do not hold any responsibility for the accuracy and completeness of the articles in the proceedings. Authors retain the copyright of their individual contributions. The results and interpretations expressed are those of the authors alone and do not necessarily state or reflect those of Institute of Engineering Mathemathics, UniMAP.

TABLE OF CONTENTS

PREFACE MESSAGE

LIST OF REVIEWER

COMPUTATIONAL MATHEMATICS

CM001	Blood Flow and Transport of Oxygen in Simplified Arteries With Anomalies Subjected to Strong Non-Uniform Magnetic Field NursalasawatiRusli, SasaKenjeresand Ahmad KuehBeng Hong	1-7
CM002	Numerical Software for Various Over Relaxation Schemes Ng Yit Hoe and Mohammad KhatimHasan	8-14
CM003	Conditions for Exact Dixon SeyedmehdiKarimisangdehi	15-17
CM006	Unsteady Stagnation Point Flow and Heat Transfer Over a Stretching/Shrinking Sheet With Prescribed Surface Heat Flux MeliniSuali, NikMohd. AsriNik Long and AnuarMohd. Ishak	18-23
CM009	New Diffie Hellman Key Exchange Primitive Based Upon Binary Field Uma S.Kanniah and AzmanSamsudin	24-30
CM014	Rayleigh-Benard Convection in Micropolar Fluid With Feedback Control Effect IzzatiKhalidah, Nor FadzillahMohdMokhtarand NorihanMdArifin	31-36
CM019	Sticker Systems Over Permutation Groups NurulAfidahMohdSebry, Nor HanizaSarmin, Fong Wan Hengand SherzodTuraev	37-43
CM020	Splicing Systems Over Some Groups of Integers Modulo n NurZatulAkmarHamzah, Fong Wan Heng, Nor HanizaSarminand SherzodTuraev.	44-49
CM021	Numerical Treatment of Hypersingular Integral Equations Suzan Jabbar Obaiys, Z.K. Eskuvatov and N.M.A. Nik Long	50-52
CM024	Stagnation Flow of A Micropolar Fluid Towards a Vertical Permeable Surface With Prescribed Heat Flux Wan Mohd Khairy Adly Wan Zaimi, Anuar Ishak and Ioan Pop	53-56
CM025	Hydrostatics UNBab Mapping Function Modification for Tropospheric Delay Hamzah Sakidin	57-59

DIFFERENTIAL EQUATION

DE001	Elliptic-Helmholtz Equation for Early Detection of Breast Cancer Growth Using Matlab Computing Norma Alias, Asnida Che Abd Ghani, Hafizah Farhah Saipan@Saipol, Siti Qatrunada Muhd Palil, and Nurelya Ramli	60-64
DE003	On the Construction of Invariant Region for a Diffusive Prey-Predator Model Mohd Hafiz Mohd and Yahya Abu Hasan	65-68
DE005	Numerical Simulation For Aerodynamic Characteristics of a New Ducted-Fan VTOL UAV Configuration Fatimah Yusop, Zamri Omar and Bambang Basuno	69-74
DE009	Numerical Method for Solving Multipoints Elliptic-Parabolic Equation of Tropical Fruits Dehydration Using Dic Technique Norma Alias, Hafizah Farhah Saipan@Saipol and Asnida Che Abd. Ghani	75-79
DE012	Differential Equations to Electronic Properties of Hexagonal Semiconductors Ghassan. E. Arif, F. A. Abdullah, Roslan Hasni and Y. Al-Douri	80-84
DE013	The Extension of The Anderson-May Model of Epidemics With Vaccination Among Immigrants Zati Iwani Binti Abdul Manaf	85-91
DE014	Peristaltically Induced Flow of Fourth Grade Fluid With Viscous Dissipation Obaid Ullah Mehmood, Norzieha Mustapha and Sharidan Shafie	92-96
DE015	Constraining Transmission and Reflection Probabilities by Using the Miller-Good Transformation and Its Applications Petarpa Boonserm and Matt Visser	97-102
DE017	Positive Solutions to a Singular Second Order Boundary Value Problem Mesliza Mohamed, Wan Ashraf Wan Azmi and Muhammad Sufian Jusoh	103-107
DE018	Uniqueness of Solution to Periodic Boundary Value Problem for System of First Order Difference Equations with Impulse Huda Salmi Ahmad, Mesliza Mohamed and Mohd Salmi Md Noorani	108-110
DE019	Positive Periodic Solution of Singular First Order Difference Equation Osman Omar, Mesliza Mohamed and Muhammad Sufian	111-115
DE020	Reflection and Transmission Resonances and Accuracy of the WKB Method Tritos Ngampitipan and Petarpa Boonserm	116-123

DE021	A Reliable Modification of the Homotopy Pertubation Method for Differential and Integral Equations M. S. H. Chowdhury, I. Hashim, and M. M Rahman	124-127
DE022	Application of Forced Nonlinear Schrödinger Equations in Optical Fibers	128-131
	Loi Wei Sen, Ong Chee Tiong, Nur Ilyana Anwar Apandi, Hamzah Sakidin and Chairulsyah Wasli	
DE023	Comparison Between Cubic B-Spline and Two-Step Hybrid Methods Applied to Initial Value Problem Shazalina Mat Zin, Siti Esah Mohd, Ahmad Abd. Majid and Ahmad Izani Md. Ismail	132-136
DISCRE	TE MATHEMATICS	
DM004	Modelling the Hybrid Plant Using Petri Net Algorithm M.S. Osman and B.B. Abu Bakar	137-142
DM005	Descriptional Complexity of Lindenmayer Systems S. Turaev, G. Mavlankulov, M. Othman, and M.H. Selamat	143-149
DM008	A Variant of Valence Splicing Systems: Weighted Splicing Systems S. Turaev, M. Othman, M.H. Selamat, N.H. Sarmin, and F.W. Heng	150-153
DM011	Chromatic Polynomials of Tetrahiafulvalene Dendrimers N.E. Arif and R. Hasni	154-156
ENGINE	EERING STATISTICS	
ES004	The Determination of SPC Location Using Fuzzy Technique and Transition Probability Erna Budhiati Nababan and Opim Salim Sitompul	157-161
ES006	Mixed Effect Model for Predicting Timber Volume in Multi-Species Stand Abd Rahman Kassim and Nur Hajar Zamah Shari	162-166
ES011	Application of Design of Experiment Techniques in the Single Step Pretreatment Process for Diamond Coating Noor Adila Aluwi Shakir, Noordin Mohd Yusof, Izman Sudin, Najah Ghazali, Wan Zuki Azman Wan Muhamad, Ahmad Kadri Junoh and Nor Fashihah Mohd Noor	167-172
ES013	Image Blur Assessment Using Simple Statistical Measures D.B.L. Bong, and B.E. Khoo	173-175

0-64

5-68

1-74

-79

-84

91

96

02

07

10

15

23