International Conference on Computation in Science and Engineering (ICCSE 2017)

Journal of Physics: Conference Series Volume 1090

Bandung, Indonesia
10 – 12 July 2017

ISBN: 978-1-5108-7300-1
ISSN: 1742-6588

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571

Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2017) by the Institute of Physics
All rights reserved. The material featured in this book is subject to
IOP copyright protection, unless otherwise indicated.

Printed by Curran Associates, Inc. (2018)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Table of contents

Volume 1090

International Conference on Computation in Science and Engineering
10-12 July 2017, Bandung, Indonesia

Accepted papers received: 20 August 2018
Published online: 28 September 2018

Preface

International Conference on Computation in Science and Engineering

Peer review statement

Papers

Current and Future Computation in Nuclear Engineering

Hiroshi Sekimoto.....1

By-product group benefits of non-kin resource-sharing in vampire bats

R Donepudi and R Ramaswamy.....8

AMIR CPU: World's First and Only 32-bit Softcore Processor in Schematic on Freeware Platform

Dr. Muhammad Nasir Ibrahim, Namazi Azhari, Adam Baharum, Dr. Mariani Idroas, Uswah Khairudin, Johari Kassim and Md Mohar Muhammad.....15

Effect of isotope enrichment on performance of lead-lithium blanket of inertial fusion reactor

Masatoshi Kondo, Yuu Nakajima, Teruya Tanaka and Takayoshi Norimatsu.....33

The Band Structure of a Rare Earth Element of Promethium (III) Oxide (Pm_2O_3) Calculated Using Density Functional Theory

Nur Afifah Mohd Rafi and Ahmad Nazrul Rosli.....40

Modified CANDLE Burnup Calculation System, Its Evolution, and Future Development

Zaki Su'ud, M. Ilham, Nina Widiawati and Hiroshi Sekimoto.....44

Effects of tangential inlet shape and orientation angle on the fluid dynamics characteristics in a biomass burner

Pasymi, Y W Budhi and Y Bindar.....55

Experimental Investigation and Numerical analysis of SO_2 Removal Using Polypropylene Membrane Contactor

D. Ariono, A.N. Hakim and I.G. Wenten.....63

Simulation of Semi-Autogenous Grinding (SAG) Mill using Circular-Disks-based Model

R. Sari, P. M. Widartiningsih, M. A. Martoprawiro, L. Hendrajaya and S. Viridi.....76

Analysis, Control and Circuit Design of a Novel Chaotic System with Line Equilibrium

A Sambas, S Vaidyanathan, M Mamat, M Sanjaya WS, S H Yuningsih and K Zakaria.....86

Comparative Evaluation on Several Reactor Type of Actinide Closed-Cycle Schemes

Sidik Permana, Asril Pramutadi, Syeilendra Pramuditya and Dwi Irwanto.....99

Experimental and numerical investigation of cooling performance of a cold storage in a pharmaceutical industry

A Sularno, Fxn Soelami and Y Bindar.....107

Mo-99 Isotope Production Calculation of SAMOP Reactor Experimental Facility

M. Iqbal Farezza W and Syarip.....117

On The Markov Chain Monte Carlo Convergence Diagnostic of Bayesian Finite Mixture Model for Income Distribution

I Susanto, N Iriawan, H Kuswanto, Suhartono, K Fithriasari, B S S Ulama, W Suryaningtyas and A A Pravitasari.....125

Numerical Method and Laboratory Experiment of RC Circuit using Raspberry Pi Microprocessor and Python Interface

W. S. Mada Sanjaya, Dyah Anggraeni, Aceng Sambas and Rena Denya.....135

Finite Difference Methods for Simulation of Water Waves Generated by Moving Topography

Sudi Mungkasi and Nikenasih Binatari.....142

Approximate Solution of Riccati Differential Equations and DNA Repair Model with Adomian Decomposition Method

Rahmat Al Kafi, Bariqi Abdillah and Sri Mardiyati.....149

An Evaluation of A Solid Biomass Cook Stove in Small Household Industry

Suhartono, Fitria Gasela, Anis Khoirunnisa and Suharto.....157

Numerical Study of Radiation Heat Transfer on Supplementary Firing with Gas Turbine Load Variations

Muhammad Haidar Fakhri, A. Teguh Hady and S. Arrad Ghani.....166

Analysis Service Engineering Development Lifecycle: an Object-Oriented Approach

Ade Hodijah.....174

Design Study of 600 MWt Long Life Modular Gas Cooled Fast Reactors

M.A. Fareha, Ratna D. Syarifah, Zaki Su'ud and Neny Kurniasih.....183

Optimization of texture of the multiple textured lubricated contact with slip

M Muchammad, N Sinaga, B Yunianto, Arijanto, M F Noorkarim and M Tauviqirrahman.....192

Solving Unconstrained Global Optimization Problem Using Parameter Free Filled Function in Cooperation with Jameson Gradient Based Method

Herlina Napitupulu, Ismail Bin Mohd, Endang Soeryana Hasbullah, Sukono and Sudradjat Supian.....197

Design improvement of table fan blade in term of its vibration characteristic using finite element method

O Kurdi, S A Widyanto, A Suprihanto, D B Wibowo, M A Mat Norman and G P Mohana Sundram.....204

3D simulation of the lubrication film in journal bearing using Fluid-Structure Interaction (FSI)

S Ramdhani, I Haryanto and M Tauviqirrahman.....209

The application of genetic algorithm optimization on quadratic investment portfolio without a risk-free asset under Value-at-Risk

Sukono, S. Supian, H. Napitupulu, Yuyun Hidayat and Adam Sukma Putra.....214

Effect of texture shape on the hydrodynamic lubrication performance of the sliding textured contact: a numerical approach

Susilowati, M Tauviqirrahman, J Jamari and AP Bayuseno.....222

Numerical Study of Nuclear Ground State Properties of Fuel Elements of Nuclear Reactor by Using *Skyrme-Hartree-Fock-Bogoliubov* Method

Yacobus Yulianto, Santi Hatmanti and Zaki Su'ud.....228

Frontier Orbitals of Dehydrogenated Tetrahydrocurcumin in Water Solvent: A Theoretical Study

Lusia S. P. Boli, Vera Khoirunisa, Adhitya G. Saputro, Mohammad K. Agusta, Febdian Rusydi, Heni Rachmawati and Hermawan K. Dipojono.....236

Hybrid Cryptosystem Implementation Using IDEA and Knapsack Algorithm for Message Security

Dian Rachmawati, Maya Silvi Lydia and Wynda Arianni Siregar.....241

Source Term Analysis of SAMOP Reactor Experimental Facility

L Wahid, M I Farezza W and Syarip.....248

Neutronic Analysis of SAMOP Reactor Experimental Facility Using SCALE Code System

Dedy P Hermawan, Rionaldy and Syarip.....255

Neutronic Analysis of UN-PuN Fuel use FI-ITB-CHI Code for 500MWth GFR Long Life Without Refueling

Ratna Dewi Syarifah, Zaki Su'ud, Khairul Basar and Dwi Irwanto.....262

Small Signal Stability Analysis of Wind Turbine Penetration in Sulselrabar Interconnection System

B Mustadir Darusman, Ansar Suyuti and Indar Chaerah Gunadin.....267

Expansion of Filter Design from GHz to THz with Metamaterial Hexagonal Split Ring Resonator

M. F. Kurnia, R.F. Syahputra and Saktioto.....278

Analytical Method of Atomic Density Determination of Uranyl Nitrate Solution

Syarip and Tegas Sutondo.....284

Driver Drowsiness Detection Based on Face Feature and PERCLOS

Suhandi Junaedi and Habibullah Akbar.....293

Dynamics, Circuit Design and Fractional-Order Form of a Modified Rucklidge Chaotic System

A Sambas, S Vaidyanathan, M Mamat, M Sanjaya WS, S H Yuningsih, K Zakaria and Subiyanto.....300

Evaluation of downscaled near-surface wind over maritime continent based on stations measurement

Arnida L. Latifah, Aryo Cokrowatianto and Didit Adytia.....311

Optimization of time-dose fractionation radiotherapy scheme by simulated annealing with consideration of biological factor

A N Hasto and W Rena.....318

Inertia effect of textured lubricated contact on the bearing performance using CFD approach

F Hilmy, M Muchammad, M Tauviqirrahman and J Jamari.....328

Numerical evaluation of number of textures in slip-textured lubricated contact

E Yohana, W K Ajie and M Tauviqirrahman.....335

Intelligent Software Product Line For Supply Chain

Ahmad Nurul Fajar, Ditdit Nugeraha Utama and Gunawan Wang.....341

Design of Real Time Facial Tracking and Expression Recognition for Human-Robot Interaction

W.S. Mada Sanjaya, Dyah Anggraeni, Atip Juwardi and Madinatul Munawwaroh.....347

The effect of heterogeneity in ion-exchange membrane structure on Donnan Exclusion

K. Khoiruddin, Danu Ariono, S. Subagjo and I Gede Wenten.....357

Speech Recognition using Linear Predictive Coding (LPC) and Adaptive Neuro-Fuzzy (ANFIS) to Control 5 DoF Arm Robot

W.S. Mada Sanjaya, Dyah Anggraeni and Ikhsan Purnama Santika.....364

A finite volume method for solving the gravity wave-model equations

Cecilia Heru Purwitaningsih and Sudi Mungkasi.....374

Inverse Modeling of Gravity Data with Two Layers Density in Sedimentary Basin Structure

Eko Januari Wahyudi and Wawan Gunawan A. Kadir.....380

Comparison of absorbed dose distribution 10 MV photon beam on water phantom using Monte Carlo method and Analytical Anisotropic Algorithm

Ridwan Ramdani, Freddy Haryanto and Yudha Satya Perkasa.....390

Numerical solutions to a parabolic model of two-layer fluids

Sudi Mungkasi and Friska Dwi Mesra Mangadil.....395

Vortex Formation on Horizontal Axis Wind Turbine with Splitted winglets

Rizal Ibnu Syifa and Setyo Nugroho.....402

Analysis of Fouling Mechanism in Polysulfone based Ultrafiltration Membrane during Peat Water Filtration

Danu Ariono and Anita Kusuma Wardani.....408

In Silico Study of Phospholipids as An Oral Insulin Delivery System

Nanik Rahmawati Fuadah and Rukman Hertadi.....413

Ab Initio Study on Electronic Structure of Some Imidazole Derivatives and Its Correlation with Corrosion Inhibition Properties

C D D Sundari, S Setiadji, B W Nuryadin, R Syafia, A F Huda and A L Ivansyah.....422

Computational Study of Inclusion Complexes Between Omeprazole Enantiomer with Hydroxypropyl-β-Cyclodextrin

S Setiadji, C D D Sundari, B W Nuryadin, H Zayyinunnisya, R Cahyandari and A L Ivansyah.....428

The reasoning for low ground magnetic anomaly reveal by model numeric and data on the field

Agus Laesanpura, Warsa and S. Tedy.....434

Alternating Least Square Method for Decomposing Dance Golek Menak Tensor Data

Joko Sutopo.....438

Influence of Electrical Properties on Radiation and Emission to Pinch Radius Thermal Plasma Device

R F Syahputra, R Farma, Saktioto, N D Nawi, N A Rashid, F D Ismail and J Ali.....447

Service Desk Implementation with Information Technology Infrastructure Library Framework (Study Case Financial Company)

Dwi Handoko and Abba Suganda Girsang.....453

Evaluation of ISO 27001 implementation towards information security of cloud service customer in PT. IndoDev Niaga Internet

Ahmad Nurul Fajar, Hendy Christian and Abba Suganda Girsang.....460

Fuel Breeding Analysis On Low Moderated Fuel Ratio Based On Actinides Closed Water-Cooled Thorium Reactor

Sidik Permana, Syeilendra Pramuditya and Dwi Irwanto.....469

Implementation of Rivest Shamir Adleman Cryptographic Algorithms and Techniques of Steganography First of File for Message Security

Dian Rachmawati and Yeni Rosalin Munthe.....477

Isogeometric Analysis for Thin Square Bending Plate using Collocation Method

Irwan Katili, Budianto Jaya, Imam Jauhari Maknun and Mulia Orientilize.....483

Numerical Simulation on Solving Three-Dimensional Global Optimization Problems in cooperation of Filled Function and Search Direction

Herlina Napitupulu, Ismail Bin Mohd, Yuyun Hidayat, Sukono and Sudradjat Supian.....494

Numerical simulation of breaking regular and irregular wave propagation above a sloping bottom

Didit Adytia, Semeidi Husrin and Adiwijaya.....505

Thermal analysis of composite disc-brake based on finite element method

S Riyadi, Sulistyo and M Tauviqirrahman.....511

CFD analysis of texture depth effect on the performance of hydrodynamic lubricated bearing

M Muchammad, F Hilmy, M Tauviqirrahman, J Jamari and DJ Schipper.....517

Numerical optimization of load support of the single textured lubricated contact with boundary slip

M Tauviqirrahman, M F Noorkarim, Arijanto and Muchammad.....523

Optimization of Enemy's Behavior in Super Mario Bros Game Using Fuzzy Sugeno Model

Nanang Ismail, R M Husnul, M Nurul Subkhi, Miftahudin and Eki A Z Hamidi.....529

Colored Object Sorting using 5 DoF Robot Arm based Artificial Neural Network (ANN) Method

W. S. Mada Sanjaya, Dyah Anggraeni, Madinatul Munawwaroh, M. Yusuf S. Nurasyidiek, Darmawan Setia Rahayu, Ahmad Samsudin, Ikhsan Purnama Santika and Endah Kinarya Palupi.....540

Neutronic Comparison Study Between Pb(208)-Bi and Pb(208) as a Coolant In The Fast Reactor With Modified CANDLE Burn up Scheme.

Nina Widiawati, Zaki Suud, Dwi Irwanto and Hiroshi Sekimoto.....550

On The Bernoulli Mixture Model for Bidikmisi Scholarship Classification with Bayesian MCMC

W Suryaningtyas, N Iriawan, K Fithriasari, BSS Ulama, I Susanto and AA Pravitasari.....558

Preliminary Study of Long-life GFR 100 and 150 MWth

S.C. Pattipawaej and Z. Su'ud.....566

Flory-Huggins Based Model to Determine Thermodynamic Property of Polymeric Membrane Solution

P T P Aryanti, D Ariono, A N Hakim and I G Wenten.....583

Tidal Current Circulation in Westhern Bali Sea Using a 2-D Hydrodynamic Model

D A Widiawan and S Nurdjaman.....596

Optimizing and Implementation Contactless Tag-Reader System for Smart Classroom and Laboratory Access

Rida Ariyanti, Elyas Palantei and Intan Sari Areni.....601

The Effect of Grounding Resistance About Back Flashover on 150 KV Tranmission Network in Main Station of Sungguminasa - Tallasa (Makassar)

Naomi Lembang, Salama Manjang and Ikhlas Kitta.....608

A Numerical Investigation of the Friction Contact of an Unfilled Styrene Butadiene Rubber by a Blade Sliding Indentation

B. Setiyana, M. Khafidh, R. Ismail, J. Jamari and D.J. Schipper.....618

Design Project Management System Based on SOA Approach

Abba Suganda Girsang, Fahmi Jafar and Ahmad Nurul Fajar.....624

The *Hybrid* Model Algorithm on Sharia Insurance

Rini Cahyandari, Riva Lesta Ariany, Sukono and Yudha Satya Perkasa.....634

Development of Ebola Vaccine Candidate by in Silico from Glikoprotein (GP) Gene of Ebola Zaire Virus

Yani Suryani, Opik Taupiqurrohman, Sri Aryanti, Moh. Nurul Subkhi and Epa Paujiah.....642

Appropriateness of Water Hyacint and Rice Husk as Filler Materials for Resin Polymer Insulation

Trisna Amelia Fitriah, Salama Manjang and Ikhlas Kitta.....648