# TRANSACTIONS OF THE NIGERIAN ASSOCIATION OF MATHEMATICAL PHYSICS [TNAMP]



Manuscripts should be submitted in triplicate copies along with a non-refundable fee of \$\text{N2,000.00}\$ (Two thousand naira only) in bank draft written in favour of Professor J.O.A. Idiodi, whose address appears below. Manuscripts can also be submitted via e-mail to the Editor-in-chief (see the e-mail address below) Currently issues of the Transactions appear every year in the months of January, March, May, etc.

Articles are entertained all the year round but authors wishing their manuscript to be published in any of the journal issues should endeavor to submit their manuscripts at least two months earlier than the month of the Journal issue.

The submission of a paper implies *it has not been* published elsewhere, and it is not under consideration for publication with other journals. Once a paper is accepted, it is assumed that the author has ceded the copyright to the Nigerian Association of Mathematical Physics.

Manuscripts must be in English Language, should be typed in double spacing and should not exceed 20 typed A4 paper in length. Authors are urged to pay careful attention to symbols, which should be typed neatly and unambiguously, using equation editor (NOT SYMBOLS) and separating equation number from the equation file and each equation statement should NOT BE GROUPED and should be properly aligned to distinguish subscripts and superscripts. Any paper with mathematical equations, typed without using equation editor would not be accepted and equations should not be grouped as objects. All tables, figures and references must be cited in the body of the paper. Tables, figures and references should be numbered in the order in which they are cited in the text. All graphs and figures should be neatly drawn or plotted and bold enough in case of enlargement.

The Standard International (SI) system of units should be used in all manuscripts. Unusual symbols, abbreviations or notations should be defined when first mentioned in the text.

Authors should also submit CD (Compact disc, not diskette) containing their manuscripts done in Microsoft word 2003 and NOT in PDF. Authors should be sure that their soft copy is VIRUS-FREE, otherwise the paper would be rejected and any paper not on CD would also be rejected.

Manuscripts should contain the following headings, where appropriate: **Title** (followed by the author's name, address, e-mail and phone number); **Abstract** (that is, a brief summary of the contents and conclusion of the paper, not exceeding 200 words); **Introduction, Theoretical analysis, Experimental work, Results and Discussion, Conclusion, Acknowledgement and References. The numbering of the headings and subheadings and references should be as in the Journal of NAMP.** 

All papers will be acknowledged and refereed and papers once received will not be returned to authors Contributors of an accepted paper will be expected to pay a publication charge. As a result of the highly unstable economic climate, publication charges are subject to frequent review. Contributors of articles are therefore expected to liaise with the Editor-in-chief to obtain the most recent information on the charges they are to pay.

Professor J.O.A. Idiodi, Editor-in-chief, e-mail address:jidiodi@hotmail.com, Department of Physics, University of Benin, Benin City, Nigeria.

#### **Contents**



#### =========:

An Eoq Model For Non-Instantaneous Deteriorating Item With Two-Phase	
Demand Rates, Time-Dependent Linear Holding Cost And Time-Dependent	
Partial Backlogging Rate Under Trade Credit Policy	
B. Babangida and Y. M. Baraya	131
An Application of Nonparametric Statistical Techniques In	
Determining The Most Prefered Network Providers In Nigeria	
S. Nasir, M. Tasi'u and A. S Ibrahim	145
Inverse Suja Distribution And Its Applications	
C. John, T. M. Pokalas, C. Umezurike and J. Ohakwe.	151
A Two-Parameter Suja Distribution And Its Application	
Tal Mark Pokalas, Uchendu Kingsley, Chisimkwuo John, and Ohakwe Johnson	159
The Effects Of Wave Breaking In Far Field Ocean Water Flow And Their Group Velocity	
Stephen Ehidiamhen Uwamusi	<i>167</i>
Torsion Points Of Elliptic Curves Over Quadratic Field	
N. Mukhtar and A. T. Imam	<i>179</i>
Simple Battery Quality Assessment Procedure	_
Godspower O. Ashaka and Eghuanoye Ikata	183
Temperature Effects On Groundnut Shell Ash Concrete	
Richie I. Umasabor	187
Strength Development Of Concrete Using Several Nigerian Cement Brands	
Richie. I. Umasabor and Emmanuel Ukhueleigbe	191

# TRANSACTIONS OF THE

### **NIGERIAN ASSOCIATION OF MATHEMATICAL PHYSICS Vol.17**



## Contents: = = = = = = = = =

w .	
Amenable Fourier Algebra from a Constructible Group	
Daniel I.E., Olaleru J.O. and Ogunsola O.J.	
Investigating The Solubility of Wreath Products Group	
of Degree 4p Using Numerical Approach	
B.O. Johnson, S. Hamma and M.I. Bello	
Net (Sequential) Characterization of Equicontinuity	
Sunday Oluyemi	17
Notes on Equicontinuity in Topological Vector Spaces	
Sunday Oluyemi	25
The Sup-Equicontinuity Theorem	
Sunday Oluyemi	31
$A_0$ -Stable Rational Integrator for the Solution of Ordinary Differential Equations	
O.A. Elakhe, A.O. Isere and F. Ebhohimen	35
Solution Of Ordinary Differential Equation: Perturbation	
Iteration Method Approach	
Ayodele M.A, Odetunde O.S, Olubanwo O.O., Olasupo A.O., Ajani A.S. and Olabanjo I.A.	41
Semi-Analytic Methods for the Solution of Two Epidemiological Models	
B.T. Enoch, T.T. Ashezua and S.A. Somma	51
Numerical Solution to Second Order Nonlinear Differential	
Equation by Iterative Decomposition Approximation Technique	
Osilagun J.A. and Taiwo O.A.	61
Theoretical Study of The Mathematical Model On The Population Dynamics Of Dengue	<u> </u>
Akhaze R.U., Ako I.I. and Olowo O.O.	<i>67</i>
A Semi-Analytic Decomposition Method with Shifted Chebyshev Polynomial of First	<u> </u>
Kind for Solving Some Class of Second Order Nonlinear Ordinary Differential Equations	
Osilagun J.A. and Adegbindin A.O.	83
Framework Based On Fuzzy Expert System Model For	
Prediction of Electric Load Demand-Supply Balance	
Abdullahi Salihu Audu, Blamah N.V., Musa Samaila, Mustafa Ahmed and Isiaka Fatima	89
Level Of Significance Difference Of Regression Test Case Prioritization Approaches	
Samaila Musa, Esther Samuel Alu and Yunana Kefas	95
Financial Development And Economic Growth: Granger Causality For Nigeria	
Hamidu Aliyu Chamalwa, Shuaibu Idris Adam and Aishatu Kaigama	99
Modification of Heston's Model For Stock Market	
Ogbaji, E.O., Osayi, V.I. and Ali, M.I.	103
An Eoq Model For Non-Instantaneous Deteriorating Items with Two Phase	200
Demand Rates And Two-Level Pricing Strategies Under Trade Credit Policy	
B. Babangida and Y.M. Baraya	117
D. Dubunguu unu 1.11. Duruyu	11/