

## TABLE OF CONTENTS

**Volume 2 Number 12**

**December 2011**

### **The Physical Transient Spectrum for a Multi-Photon V-Type Three-Level Atom Interacting with a Squeezed Coherent Field in the Presence of Nonlinearities**

- F. K. Faramawy, A. A. Eied.....1425

### **Approximate Analytical Solutions for the Nonlinear Brinkman-Forchheimer-Extended Darcy Flow Model**

- B. K. Jha, M. L. Kaurangini.....1432

### **On $p$ and $q$ -Horn's Matrix Function of Two Complex Variables**

- A. Shehata.....1437

### **Inverse Eigenvalue Problem for Generalized Arrow-Like Matrices**

- Z. B. Li, C. Bu, H. Wang.....1443

### **Extension of Range of MINRES-CN Algorithm**

- M. G. Kamalvand.....1446

### **Degree of Approximation of Conjugate of Signals (Functions) by Lower Triangular Matrix Operator**

- V. N. Mishra, H. H. Khan, K. Khatri.....1448

### **Propagation of Torsional Surface Waves under the Effect of Irregularity and Initial Stress**

- S. Gupta, D. K. Majhi, S. K. Vishwakarma, S. Kundu.....1453

### **On the Behavior of Combination High-Order Compact Approximations with Preconditioned Methods in the Diffusion-Convection Equation**

- A. Golbabai, M. Molavi-Arabshahi.....1462

### **The Analytical and Numerical Solutions of Differential Equations Describing of an Inclined Cable Subjected to External and Parametric Excitation Forces**

- M. S. Abd Elkader.....1469

### **Numerical Solution of Nonlinear Klein-Gordon Equation Using Lattice Boltzmann Method**

- Q. J. Li, Z. Ji, Z. S. Zheng, H. J. Liu.....1479

### **Controllability of Neutral Impulsive Differential Inclusions with Non-Local Conditions**

- D. N. Chalishajar, F. S. Acharya.....1486

**Precision of a Parabolic Optimum Calculated from Noisy Biological Data, and Implications for Quantitative Optimization of Biventricular Pacemakers (Cardiac Resynchronization Therapy)**

D. P. Francis.....1497

**Pattern Formation in Tri-Trophic Ratio-Dependent Food Chain Model**

D. Melese, S. Gakkhar.....1507

**On Solutions of Generalized Bacterial Chemotaxis Model in a Semi-Solid Medium**

A. M. A. El-Sayed, S. Z. Rida, A. A. M. Arafa.....1515

**Special Lattice of Rough Algebras**

Y. H. Liu.....1522

**On Signed Product Cordial Labeling**

J. B. Babujee, S. Loganathan.....1525

**Cryptographic PRNG Based on Combination of LFSR and Chaotic Logistic Map**

H. Rahimov, M. Babaei, M. Farhadi.....1531

**An Efficient Combinatorial-Probabilistic Dual-Fusion Modification of Bernstein's Polynomial Approximation Operator**

S. A. Wahid.....1535

**Minimax Multivariate Control Chart Using a Polynomial Function**

J. A. Adewara, K. S. Adekeye, O. E. Asiribo, S. B. Adejuyigbe.....1539

**Test of Generating Function and Estimation of Equivalent Radius in Some Weapon Systems and Its Stochastic Simulation**

F. M. Zheng.....1546

---

The figure on the front cover is from the article published in Applied Mathematics, 2011, Vol. 2, No. 12, pp. 1507-1514, by Dawit Melese and Sunita Gakkhar.