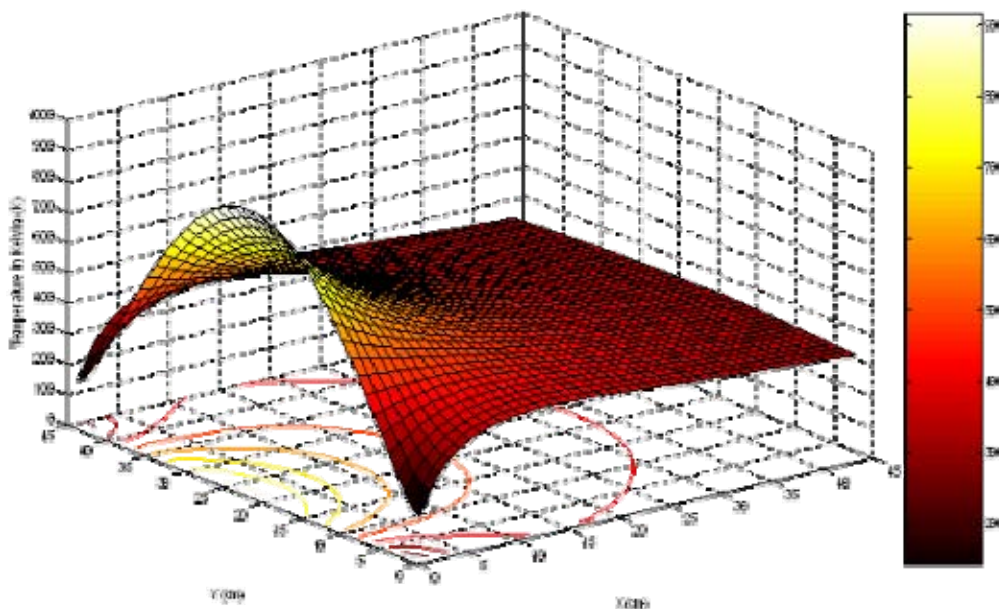


# *Leonardo Electronic Journal of Practices and Technologies*

*Issue 20*

*January-June  
2012*



ISSN 1583-1078



*AcademicDirect  
Publishing House*

Leonardo Electronic Journal  
of Practices and Technologies

ISSN 1583-1078

Issue 20

January-June

2012

Leonardo Electronic Journal of Practices and Technologies

<http://lejpt.academicdirect.org>

Edited by  
AcademicDirect Publishing House

*Tel.: 0766-239997*

Chief redactor  
Lorentz JÄNTSCHI

*E-mail: lori@lejpt.academicdirect.org*

Editorial board

- Mircea SAVATTI, Prof. Ph. D. Eng. (agriculture),  
*A.S.V.M.U. Cluj-Napoca, RO*
- Gheorghe LAZEA, Prof. Ph. D. Eng. (automatics),  
*T. Univ., Cluj-Napoca, RO*
- Elena Maria PICĂ, Prof. Ph. D. Eng. (chemistry),  
*T. Univ., Cluj-Napoca, RO*
- Elena ZAHARIEVA-STOJANOVA, Asist. Prof. Ph. D. Eng. (computer sciences),  
*T. Univ., Gabrovo, BG*
- Ivan SIMEONOV SIMEONOV, Asist. Prof. Ph. D. Eng., (computer systems),  
*T. Univ., Gabrovo, BG*
- Rosen STEFANOV IVANOV, Asist. Prof. Ph. D. Eng., (computer technologies),  
*T. Univ., Gabrovo, BG*
- Tarek BOUKTIR, Prof. Ph. D. Eng., (engineering),  
*C.U. d'Oum El Bouaghi, DZ*
- Tiberiu RUSU, Prof. Ph. D. Eng., (environment),  
*T. Univ., Cluj-Napoca, RO*
- Radu Emil SESTRĂȘ, Prof. Ph. D. Eng., (horticulture),  
*A. S. V. M. Univ., Cluj-Napoca, RO*
- Lorentz JÄNTSCHI, Assoc. Prof. Ph. D. Sci. Eng., (informatics),  
*T. Univ., Cluj-Napoca, RO*
- Ștefan ȚIGAN, Prof. Ph. D. Sci., (mathematics),  
*"I. H." M. P. Univ. Cluj-Napoca, RO*
- Anca BUTNARU, Asist. Prof. Ph. D. Med., (medicine),  
*"I. H." M. P. Univ. Cluj-Napoca, RO*
- Eugen CULEA, Prof. Ph. D. Sci., (physics),  
*T. Univ., Cluj-Napoca, RO*
- Amarendra Narayan MISRA, Prof. Ph. D. Sci., (biotechnology),  
*F.M.U. Orissa, IN*

## Contents

- 1. A Novel Control Algorithm Expressions set for not Negligible Resistive Parameters PM Brushless AC Motors**, by Renato RIZZO, Andrea DEL PIZZO, and Ivan SPINA.....p. 1-14
- 2. Numerical Simulation of Steady State Conduction Heat Transfer during the Solidification of Aluminum Casting in Green Sand Mould**, by Victor ANJO .....p. 15-24
- 3. Effects of Alumina Cement on the Refractory Properties of Leached Ipetumodu Clay**, by Davies Oladayo FOLORUNSO, Peter Apata OLUBAMBI, and Joseph Olatunde. BORODE.....p. 25-38
- 4. Synthesis and Study on Effect of Parameters on Dry Sliding Wear Characteristics of AL-SI Alloys**, by Francis Uchenna OZIOKO.....p. 39-48
- 5. Design and Fabrication of an Industrial Poultry Feed Tumble Mixer**, by Osokam Shadrach ONYEGU, Ogbanga IBIFURO, Monday Nsikan IDUNG, and Thompson AGUHEVA .....p. 49-60
- 6. Investigation of the use of Ishiagu Galena Concrete in E-M Radiation Shielding**, by Gabriel Ndubisi EGWUONWU, Paul Hena BUKAR, and Abraham AVAA.....p. 61-74
- 7. Thermal Energy Storage with Phase Change Material**, by Lavinia Gabriela SOCACIU.....p. 75-98
- 8. Hardware Implementation of Vector Control of Induction Motor Drive without Speed Encoder Using an Adaptive Luenberger Based MRAS Observer**, by Karim NEGADI, Abdellah MANSOURI, and Rabeh KOUREK .....p. 99-114
- 9. Extracting Three Dimensional Surface Model of Human Kidney from the Visible Human Data Set using Free Software**, by Kirana P. KUMARA .....p. 115-126
- 10. Control Methods of the Switched Reluctance Motor in Electric Vehicle During Acceleration**, by Fathy El Sayed ABDEL-KADER, Mohsen Z. ELSHERIF, Naser M.B. ABDEL-RAHIM, and Mohamed M. FATHY .....p. 127-146

11. **Lung Cancer Detection Using Image Processing Techniques**, by Mokhled S. AL-TARAWNEH.....p. 147-158
12. **Digital Phase Locked Loop Induction Motor Speed Controller: Design and Experiments**, by Mouna BEN HAMED and Lassaad SBITA .....p. 159-174
13. **Preparation of Biodiesel of Undi seed with In-situ Transesterification**, by Sanjaykumar DALVI, Swati SONAWANE, and Raghunath POKHARKAR.....p. 175-182
14. **Determination of Juice Removal Difficulty from Mash Cake in Cassava Mash Dewatering Operation**, by Oladele Peter KOLAWOLE, Leo S. AGBETOYE, Semion A. OGUNLOWO, and Taiwo SAMUEL .....p. 183-192
15. **Effect of Palmyra Palm Leaf Ash on Cement Stabilization of Makurdi Shale**, by Amos Yala IORLIAM, Isaac Olufemi AGBEDE, and Tersugh JEIYOL.....p. 193-205