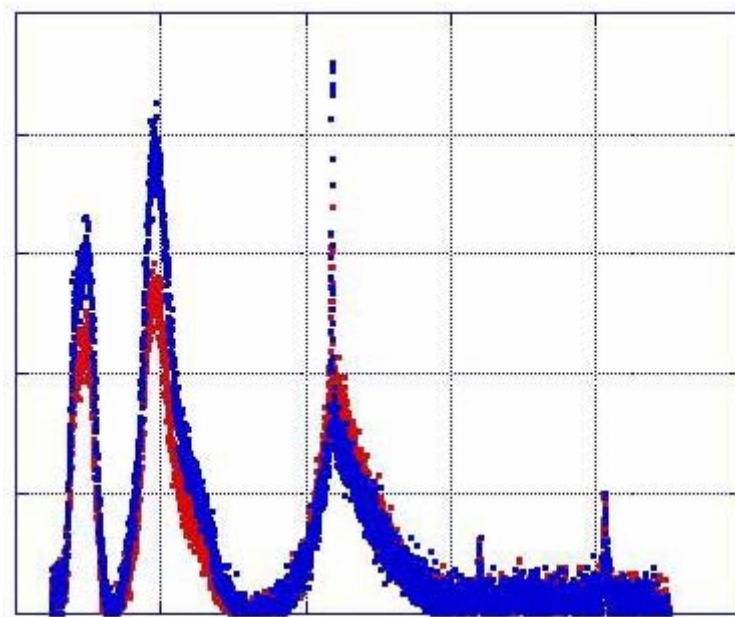




*Leonardo Journal of Sciences*

*Issue 29*

*July-December  
2016*



ISSN 1583-0233



*AcademicDirect*  
Publishing House

# Leonardo Journal of Sciences

ISSN 1583-0233

Issue 29

July-December

2016

## Leonardo Journal of Sciences

<http://ljs.academicdirect.org>

Edited by

AcademicDirect

Tel.: 0766-239997

Editor-in-chief

Lorentz JÄNTSCHI

E-mail: [lori@ljs.academicdirect.org](mailto:lori@ljs.academicdirect.org)

Executive editor

Sorana Daniela BOLBOACĂ

E-mail: [ljsacademicdirect@gmail.com](mailto:ljsacademicdirect@gmail.com)

Editorial assistant

Vlad C. DĂSCĂLESCU

E-mail: [ljsacademicdirect@gmail.com](mailto:ljsacademicdirect@gmail.com)

Editorial board

- 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*
- Gheorghe LAZEA, Prof. Ph.D. Eng., (automatics),  
*T. Univ., Cluj-Napoca, RO*
- Mădălina Ana VĂLEANU, Asist. Prof. Ph.D. Sci., (informatics),  
*'IH'-MPU Cluj-Napoca, RO*
- Radu Tiberiu TRĂMBIȚAȘ, Assoc. Prof. Ph.D. Sci., (mathematics),  
*'IH'-MPU Cluj-Napoca, RO*
- Eugen CULEA, Prof. Ph.D. Sci., (physics),  
*T. Univ., Cluj-Napoca, RO*
- Mircea Vasile DIUDEA, Prof. Ph.D. Sci., (chemistry),  
*T. Univ., Cluj-Napoca, RO*
- Meenu VIKRAM, Res. Assoc. Ph.D. Sci., (biology),  
*Texas A&M University, USA*
- Amarendra Narayan MISRA, Prof. Ph.D. Sci., (biotechnology),  
*Texas A&M University, USA*
- Anca BUTNARU, Asist. Prof. Ph.D. Med., (medicine),  
*'IH'-MPU Cluj-Napoca, RO*
- Tiberiu RUSU, Prof. Ph.D. Eng., (environment),  
*T. Univ., Cluj-Napoca, RO*
- Tarek BOUKTIR, Prof. Ph.D. Eng., (engineering),  
*C.U. d'Oum El Bouaghi, DZ*
- Mircea SAVATTI, Prof. Ph.D. Eng., (agriculture),  
*ASVMU Cluj-Napoca, RO*
- Radu Emil SESTRĂȘ, Prof. Ph.D. Eng., (horticulture),  
*ASVMU Cluj-Napoca, RO*

## Contents

- 1. Effect of temperature on the optical properties of  $\text{Ag}_3\text{O}_4/\text{AgO}$  thin films**, by Uche E. EKPUNOBI, Chikaodili A. AKUMUO, Adaora S. OGBUAGU, Chiamara B. DURU, Vincent I.E. AJIWE ..... p. 1-12
- 2. Simulation study of typical auto-mechanics tasks**, by Oluranti A. ABIOLA, Adekola O. OKE, Olufemi A. KOYA, Banji Z. ADEWOLE..... p. 13-24
- 3. Gravimetric and electrochemical studies of corrosion inhibition potential of acid and ethanol extract of siam weed on mild steel**, by Sunday J. OLUSEGUN, Elvis A. OKORONKWO, Anita E. OKOTETE, Olabisi A. AJAYI..... p. 25-42
- 4. The sensitivity approach method with optimal placement of thyristor controlled series compensator**, by Messaoud ZOBEIDI, Fatiha LAKDJA, Fatima Z. GHERBI ..... p. 43-54
- 5. Wind pumping assessment as source of renewable energy**, Mustapha ELAMOURI, Fathi B. AMAR..... p. 55-74
- 6. Trend analysis of selected hydro-meteorological processes**, by John J. MUSA, Martins Y. OTACHE, Peter A. ADEOYE, Kunle OKANLAWON, Stephen K. OLORUNTOLA ..... p. 75-86
- 7. Hydro-chemical studies for pollution assessment: A case study**, by Adebola ADEKUNLE, Olufiropo AWOKOLA, Grace OLUWASANYA, Abiodun LANIYAN..... p. 87-98
- 8. Synthesis and characterization of the mechanical properties of high-density polyethylene based composites reinforced with animal fibers**, by Avwersuoghene M. OKORO, Isiaka O. OLADELE, Moshibudi C. KHOATHANE ..... p. 99-112
- 9. Effect of different melting practices on mechanical properties of sand cast Al-Si alloy scraps**, by Katsina C. BALA, Taiwo A. ALABI.....p. 113-124
- 10. Tensile and hydrophilic properties of low-density polyethylene/titania composites**, by Oluyemi O. DARAMOLA, Isiaka O. OLADELE, Benjamin O. ADEWUYI, Jimmy L. OLAJIDE, Adekunle S. OGUNBADEJO, Paul ADEYEMI.....p. 125-147
- 11. Effect of casting wall thickness and pouring temperature on residual stress build up in aluminium 6063 casting**, by Saliu O. SEIDU, Adetunji ONIGBAJUMO .....p. 148-160