Record 1 of 15

Title: Experimental Study of Proton Irradiation Effect on Silicon Solar Cells

Author(s): Paulescu, M (Paulescu, Marius); Vizman, D (Vizman, Daniel); Lascu, M (Lascu, Mihaela); Negrila, R (Negrila, Radu); Stef, M (Stef, Marius)

Edited by: Vizman D; Popescu A

Source: TIM15-16 PHYSICS CONFERENCE **Book Series:** AIP Conference Proceedings **Volume:** 1796 **Article Number:** UNSP 040010-1 **DOI:** 10.1063/1.4972388 **Published:** 2017

Abstract: Results of studying the degradation of the silicon solar cells subjected to irradiation with protons are reported. The macroscopic properties of the cells, such as current-voltage characteristics, serial/parallel resistances, fill factor and efficiency, are examined before and after irradiation. Proton irradiation was performed at the Tandem Accelerator of IFIN-HH, Bucharest. The solar cells were characterized under standard AM0 solar flux at the PV Lab of the West University of Timisoara. The results show that the proton irradiation changes the overall properties of the solar cell, causing a considerable degradation of its performances.

Accession Number: WOS:000404285900040

Conference Title: TIM15-16 Physics Conference

Conference Date: MAY 26-28, 2016

Conference Location: W Univ Timisoara, Phys Fac, Timisoara, ROMANIA

Conference Host: W Univ Timisoara, Phys Fac

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ISSN: 0094-243X

ISBN: 978-0-7354-1462-4

Record 2 of 15

Title: Educational Biogas Installation Monitoring using Virtual Instrumentation Concepts

Author(s): Cioabla, AE (Cioabla, A. E.); Lascu, M (Lascu, M.); Ionel, R (Ionel, R.)

Book Group Author(s): IEEE

Source: 2014 IEEE FRONTIERS IN EDUCATION CONFERENCE (FIE) **Book Series:** Frontiers in Education Conference **Pages:** 214-222 **Published:** 2014

Abstract: This paper presents the implementation of a Virtual Instrumentation (VI) based system which is used for remote monitoring of biogas production activities. The proposed measurement approach was designed and is used by students during Measurement and Instrumentation lectures. It combines hardware and software knowledge while allowing the users to interact with a domain of great interest - biogas production. The software component was developed using National Instruments' LabVIEW while dedicated gas sensors have been employed for gas concentration monitoring. The application can be used via mobile devices since it includes a Data Dashboard (DD) interface. This feature has been considered since the proliferation of remote monitoring, with the help of mobile tools, has earned a great interest in the last years. Of course, by using a computer with Internet connectivity, the students are able to connect to the measurement front panel and operate the proposed experiments. Testing of experimental results has been performed with dedicated stand alone instruments. Consequently, the students have the possibility of discussing important VI aspects compared against classic methodologies impacting the test and measurement of biogas production emissions.

Accession Number: WOS:000380490600040

Conference Title: IEEE Frontiers in Education Conference (FIE)

Conference Date: OCT 22-25, 2014

Conference Location: Madrid, SPAIN

Conference Sponsors: Frontiers In Educ, IEEE, IEEE Comp Soc, American Soc Engn Educ

ISSN: 0190-5848

ISBN: 978-1-4799-3922-0

Record 3 of 15

Title: Arduino and LabVIEW in Educational Remote Monitoring Applications

Author(s): Calinoiu, D (Calinoiu, D.); Ionel, R (Ionel, R.); Lascu, M (Lascu, M.); Cioabla, A (Cioabla, A.)

Book Group Author(s): IEEE

Source: 2014 IEEE FRONTIERS IN EDUCATION CONFERENCE (FIE) **Book Series:** Frontiers in Education Conference **Pages:** 245-249 **DOI:** 10.1109/FIE.2014.7044027 **Published:** 2014

Abstract: This paper presents the implementation of Virtual Instrumentation (VI) based system used for remote monitoring of selected environmental parameters: humidity, temperature, light intensity and methane. The educational benefits (learning outcomes) of this application are the following: design and implementation of the monitoring circuitry, programming for both LabVIEW and Arduino, understanding VI concepts and using mobile devices for parameters monitoring. The proposed application was developed by students during Measurements and Virtual Instrumentation programming courses. It includes traditional data acquisition hardware (NI USB 6251) and the Arduino Uno device. A Cinterion MC55iT GSM/GPRS terminal is used for sending automatic alerts to authorized mobile phones. E-mail warnings are also available. If established parameters exceed imposed limitations, the warning system will activate. Distance operation of this application is available via LabVIEW Remote Panels technology and Data Dashboard running on iOS. In this way one can use the learning process in the form of a distance laboratory.

Accession Number: WOS:000380490600044

Conference Title: IEEE Frontiers in Education Conference (FIE)

Conference Date: OCT 22-25, 2014

Record 4 of 15

Title: A New Method for Calculating the Transfer Functions in Quasiresonant Converters

Author(s): Lascu, M (Lascu, Mihaela)

Source: ADVANCES IN ELECTRICAL AND COMPUTER ENGINEERING Volume: 13 Issue: 3 Pages: 107-112 DOI: 10.4316/AECE.2013.03017 Published: 2013

Abstract: A matrix method for deriving the audiosusceptibility and the control to output transfer functions in quasiresonant converters (QRCs) is presented. The method is based on the state-space description of the parent converter and it has the advantage of generality in the sense it can be applied to any topology. Moreover, it can be easily absorbed in MATLAB under Symbolic Toolbox, substantially reducing the calculation effort and time. Using this method the control to output transfer function of the QRC Cuk converter is calculated for the first time. The method is verified compared to other tools and perfect agreement is observed for second order classical converters.

Accession Number: WOS:000326321600017

ISSN: 1582-7445

eISSN: 1844-7600

Record 5 of 15

Title: Global Solar Irradiation Modeling and Measurements in Timisoara

Author(s): Jurca, T (Jurca, T.); Tulcan-Paulescu, E (Tulcan-Paulescu, E.); Dughir, C (Dughir, C.); Lascu, M (Lascu, M.); Gravila, P (Gravila, P.); De Sabata, A (De Sabata, A.); Luminosu, I (Luminosu, I.); De Sabata, C (De Sabata, C.); Paulescu, M (Paulescu, M.)

Edited by: Bunoiu M; Malaescu I

Source: PHYSICS CONFERENCE (TIM-10) Book Series: AIP Conference Proceedings Volume: 1387 DOI: 10.1063/1.3647083 Published: 2011

Abstract: Four global solar irradiation models are tested against data measured during 2009 at the Solar Radiation Monitoring Station, located in Timisoara, Romania, in order to recommend the most fitting for the region. The quality of the collected data is evaluated in comparison with long term averaged data provided by the NASA Surface Solar Energy service.

Accession Number: WOS:000301176200037

Conference Title: Physics Conference (TIM)

Conference Date: NOV 25-27, 2010

Conference Location: Timisoara, ROMANIA

Conference Sponsors: W Univ, Fac Phys

Author Identifiers:

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Gravila, Paul-Mircea		0000-0002-0154-577X

ISSN: 0094-243X

ISBN: 978-0-7354-0951-4

Record 6 of 15

Title: Distance Education in Soft-Switching Inverters

Author(s): Lascu, D (Lascu, Dan); Bauer, P (Bauer, Pavol); Babaita, M (Babaita, Mircea); Lascu, M (Lascu, Mihaela); Popescu, V (Popescu, Viorel); Popovici, A (Popovici, Adrian); Negoitescu, D (Negoitescu, Dan)

Source: JOURNAL OF POWER ELECTRONICS Volume: 10 Issue: 6 Special Issue: SI Pages: 628-634 DOI: 10.6113/JPE.2010.10.6.628 Published: NOV 2010

Abstract: The paper describes aspects regarding an E learning approach of resonant ac inverters The learning process is based on Learning by Doing' paradigm supported by several learning tools electronic course materials interactive simulation laboratory plants and real experiments accessed by Web Publishing Tools under LabVIEW Built on LabVIEW and accompanied by a robust flexible and versatile hardware the experiment allows a comprehensive study by remote controlling and performing real measurements on the inverters The study is offered in a gradual manner according to the Leonardo da Vinci project EDIPE (E-learning Distance Interactive Practical Education) philosophy theoretical aspects followed by simulations while in the end the real experiments are investigated Studying and experimenting access is opened for 24 hours a day 7 days a week under the Moodle booking system

Accession Number: WOS:000284677700008

Author Identifiers:

Author	ResearcherID Number	ORCID Number
Bauer, Pavol	E-1288-2011	

ISSN: 1598-2092

eISSN: 2093-4718

Record 7 of 15

Title: SOLAR RADIATION MODELING AND MEASUREMENTS IN TIMISOARA, ROMANIA: DATA AND MODEL QUALITY

Author(s): Paulescu, M (Paulescu, Marius); Dughir, C (Dughir, Ciprian); Tulcan-Paulescu, E (Tulcan-Paulescu, Eugenia); Lascu, M (Lascu, Mihaela); Gravila, P (Gravila, Paul); Jurca, T (Jurca, Traian)

Source: ENVIRONMENTAL ENGINEERING AND MANAGEMENT JOURNAL Volume: 9 Issue: 8 Pages: 1089-1095 DOI: 10.30638/eemj.2010.141 Published: AUG 2010

Abstract: This paper introduces the first station in Romania (Eastern Europe) outfitted for systematic monitoring of solar irradiance on tilted surfaces. The resulted database is in many aspects unique for Romania, allowing for the first time to derive specific parameters like diffuse fraction or sunshine number. Also for the first time, the data collected on tilted surfaces can be used to test models reported in literature and to recommend the most fitting for the region, as is detailed in the paper.

Accession Number: WOS:000282849400008

Author Identifiers:

Author	ResearcherID Number	ORCID Number
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Gravila, Paul-Mircea		0000-0002-0154-577X
Paulescu, Eugenia		0000-0001-9998-7981
Paulescu, Marius		0000-0002-3232-243X

ISSN: 1582-9596

Record 8 of 15

Title: E-LEARNING PRACTICAL TEACHING OF UNCONTROLLED RECTIFIERS

Author(s): Bauer, P (Bauer, Pavol); Lascu, D (Lascu, Dan); Lascu, M (Lascu, Mihaela); Babaita, M (Babaita, Mircea); Popescu, V (Popescu, Viorel); Negoitescu, D (Negoitescu, Dan); Popovici, A (Popovici, Adrian)

Book Group Author(s): IEEE

Source: EPE: 2009 13TH EUROPEAN CONFERENCE ON POWER ELECTRONICS AND APPLICATIONS, VOLS 1-9 **Pages:** 1840-+ **Published:** 2009

Abstract: The paper describes blended learning approach to teaching uncontrolled rectifiers. It is based on "Learning by Doing" paradigm supported by several learning tools: electronic course materials, interactive simulation, laboratory plants and real experiments accessed by Web Publishing Tools under LabVIEW. Studying and experimenting access is opened for 24 hours a day, 7 days a week under the Moodle booking system.

Accession Number: WOS:000275384100204

Conference Title: 13th European Conference on Power Electronics and Applications (EPE 2009)

Conference Date: SEP 08-10, 2009

Conference Location: Barcelona, SPAIN

Author Identifiers:

Author	ResearcherID Number	ORCID Number
Bauer, Pavol	E-1288-2011	

ISBN: 978-1-4244-4432-8

Record 9 of 15

Title: Finite element method applied in modelling perturbations on Printed Circuit Boards

Author(s): Lascu, M (Lascu, M.); Lascu, D (Lascu, D.)

Source: INTERNATIONAL REVIEW OF ELECTRICAL ENGINEERING-IREE **Volume:** 3 **Issue:** 2 **Pages:** 273-280 **Published:** MAR-APR 2008

Abstract: This paper is concerned with predicting the electrical behaviour of metallization patterns printed onto dielectric substrates using the Finite Element Method (FEM). The method described was initially aimed at the modelling of Printed Circuit Boards (PCB) layouts, but is just as applicable to VLSI layouts. It involves the generation of an equivalent circuit to model the electrical properties of the layout. This can be obtained efficiently and provided directly to a circuit simulation program. Predictions can then be made of how the performance of a circuit implemented on a PCB is modified by its physical layout, or of the performance of printed components such as spiral inductors. Copyright (c) 2008 Praise Worthy Prize S.r.l. - All rights reserved.

Accession Number: WOS:000256494400008

ISSN: 1827-6660

Record 10 of 15

Title: The Finite Element Method in Shielding Problems

Author(s): Lascu, M (Lascu, M.)

Source: INTERNATIONAL REVIEW OF ELECTRICAL ENGINEERING-IREE **Volume:** 3 **Issue:** 1 **Pages:** 174-181 **Published:** JAN-FEB 2008

Abstract: A very powerful tool for studying the magnetic field of shaped slotted screens has been developed. The proposed method is based on a circuital characterization of the structure, via the Finite Element Method (FEM), which is then combined with a modal expansion to compute the field inside and outside the envelope. Although I have centered my analysis in square slotted structures, the versatility of the Finite Element Method permits one to apply this method to any bidimensional envelope no matter how many slots or dielectric parts it contains. This paper is also a review describing the basics of the finite-element method and its applications to EMI/C problems. It demonstrates how this method can help in the analysis of shield degradation it? the presence of external conductors and electromagnetic leakage through slot configurations in a shielded enclosure. The development is given for an EMI application related to shield degradation in the presence of external conductors. The magnetic field inside and outside the slotted screens has been studied using the Finite Element Method. As a practical application, the magnetically performance of a slotted cylindrical and rectangular screen has been studied. In general, it is shown that coupling to the interior of slotted screens is maximized at frequencies corresponding to resonance of the shorted screen, provided that the fields do not vanish near the aperture. Copyright (C) 2008 Praise Worthy Prize S.r.l - All rights reserved.

Accession Number: WOS:000264607500021

ISSN: 1827-6660

Record 11 of 15

Title: Measurement techniques for determination of shielding effectiveness characterizing shielded coaxial cables

Author(s): Lascu, M (Lascu, Mihaela)

Edited by: Cernat M

Source: PROCEEDINGS OF THE 11TH INTERNATIONAL CONFERENCE ON OPTIMIZATION OF ELECTRICAL AND ELECTRONIC EQUIPMENT, VOL I **Pages:** 59-

64 **Published:** 2008

Abstract: The measurement of shielding effectiveness of coaxial cables is often limited by the dynamic range of the measurement system. This paper presents a new test procedure for measuring the shielding effectiveness (SE) of shielded coaxial cables. The TEH modified measurement cell with an asymmetrically placed conductor and the proposed form of the cell establish in the zone. where the cable for testing is placed, a quasi-uniform field. Moreover, the method operates over,I broad frequency range with high accuracy.

Accession Number: WOS:000258474200010

Conference Title: 11th International Conference on Optimization of Electrical and Electronic Equipment

Conference Date: MAY 22-23, 2008

Conference Location: Brasov, ROMANIA

ISBN: 978-1-4244-1544-1

Record 12 of 15

Title: Electrocardiogram compression and optimal filtering algorithm

Author(s): Lascu, M (Lascu, Mihaela); Lascu, D (Lascu, Dan)

Edited by: Lang C; Li X; Han Z; Gay RKL

Source: LECTURE NOTES IN SIGNAL SCIENCE, INTERNET AND EDUCATION (SSIP'07/MIV'07/DIWEB'07) **Book Series:** Electrical and Computer Engineering Series **Pages:** 26-+ **Published:** 2007

Abstract: In this paper novel compression techniques are developed for portable heart-monitoring equipment that could also form the basis for more intelligent diagnostic systems thanks to the way the compression algorithms depend on signal classification. There are two main categories of compression which are employed for electrocardiogram signals: lossless and lossy. Design of an optimal Wiener filter is implemented to remove noise from a signal, considering that the signal is statistically stationary and the noise is a stationary random process that is statistically independent of the signal. Two programs for compression and Wiener optimal filtering are realised in MATLAB.

Accession Number: WOS:000257380500005

Conference Title: 7th WSEAS International Conference on Signal, Speech and Image Processing/7th WSEAS International Conference on Multimedia, Internet and Video Technologies/7th WSEAS International Conference on Distance Learning and Web Engineering

Conference Date: SEP 15-17, 2007

Conference Location: Beijing Jiaotong Univ, Beijing, PEOPLES R CHINA

Conference Host: Beijing Jiaotong Univ

ISBN: 978-960-6766-06-0

Record 13 of 15

Title: LabVIEW event detection using Pan-Tompkins algorithm

Author(s): Lascu, M (Lascu, Mihaela); Lascu, D (Lascu, Dan)

Edited by: Lang C; Li X; Han Z; Gay RKL

Source: LECTURE NOTES IN SIGNAL SCIENCE, INTERNET AND EDUCATION (SSIP'07/MIV'07/DIWEB'07) **Book Series:** Electrical and Computer Engineering Series **Pages:** 32-+ **Published:** 2007

Abstract: QRS and ventricular beat detection is a basic procedure for electrocardiogram (ECG) processing and analysis. Large variety of methods have been proposed and used, featuring high percentages of correct detection. Nevertheless, the problem remains open especially with respect to higher detection accuracy in noisy ECGs. LabVIEW (Laboratory Virtual Instrument Engineering Workbench) is a graphical programming language that uses icons instead of lines of text to create programs. We developed in LabVIEW the filtering for removal of artifacts in biomedical signals and the Pan-Tompkins algorithm. We have investigated problems posed by artifact, noise and interference of various forms in the acquisition and analysis of several biomedical signals. We have also established links between the characteristics of certain epochs in a number of biomedical signals and the corresponding physiological or pathological events in the biomedical systems of concern. Event detection is an important step that is required before we may attempt to analyze the corresponding waves in more detail.

Accession Number: WOS:000257380500006

Conference Title: 7th WSEAS International Conference on Signal, Speech and Image Processing/7th WSEAS International Conference on Multimedia, Internet and Video Technologies/7th WSEAS International Conference on Distance Learning and Web Engineering

Conference Date: SEP 15-17, 2007

Conference Location: Beijing Jiaotong Univ, Beijing, PEOPLES R CHINA

Conference Host: Beijing Jiaotong Univ

ISBN: 978-960-6766-06-0

Record 14 of 15

Title: LabVIEW based biomedical signal acquisition and processing

Author(s): Lascu, M (Lascu, Mihaela); Lascu, D (Lascu, Dan)

Edited by: Lang C; Li X; Han Z; Gay RKL

Source: LECTURE NOTES IN SIGNAL SCIENCE, INTERNET AND EDUCATION (SSIP'07/MIV'07/DIWEB'07) **Book Series:** Electrical and Computer Engineering Series **Pages:** 38-+ **Published:** 2007

Abstract: This paper describes a computer based signal acquisition, processing and analysis system using LabVIEW, a graphical programming language for engineering applications. Biomedical signal acquisition has greatly advanced over the years, using many different technologies. E series multifunction data acquisition cards are used for the acquisition of biomedical signals and the appropriate software NI-DAQ. With the increasing performance of the personal computer, computer based signal processing systems are becoming an efficient and cost-effective way of acquiring and analyzing these signals. The advanced analysis techniques available on the computer are becoming invaluable to the practicing physician. The diagnostic decision will be more accurate. Peak detection in electrocardiogram (ECG) is one of the solved problems using LabVIEW and filtering biomedical signals in different ways is a challenge that has to be solved.

Accession Number: WOS:000257380500007

Conference Title: 7th WSEAS International Conference on Signal, Speech and Image Processing/7th WSEAS International Conference on Multimedia, Internet

and Video Technologies/7th WSEAS International Conference on Distance Learning and Web Engineering
Conference Date: SEP 15-17, 2007
Conference Location: Beijing Jiaotong Univ, Beijing, PEOPLES R CHINA
Conference Host: Beijing Jiaotong Univ
ISBN: 978-960-6766-06-0

Record 15 of 15
Title: Finite-element method applied in design of absorbers
Author(s): Lascu, M (Lascu, M)
Edited by: Janiszewski JM; Moron W; Sega W
Source: ELECTROMAGNETIC COMPATIBILITY 1998 **Pages:** 295-299 **Published:** 1998

Abstract: This paper will develop the formular for the reflection coefficient rho from multilayered media in order Io use ir in case studies about absorbers, such as those used in electromagnetically anechoic rooms.
The Finite Element Method (FEM) will be applied upon a hypothetical, planar, multilayered absorber made from 50 layers of non magnetic material (mu(r) = l). The main use of large wideband absorbers is in the building of electromagnetically anechoic and screened rooms for experimental purposes.

Accession Number: WOS:000076041700061
Conference Title: 14th International Wroclaw Symposium and Exhibition on Electromagnetic Compatibility
Conference Date: JUN 23-25, 1998
Conference Location: WARSAW, POLAND
Conference Sponsors: Assoc Polish Elect Engineers, Wroclaw Univ Technol, Inst Telecommun, Polish Acad Sci, Comm Electr & Telecommun, Int Union Radio Sci
ISBN: 83-901999-6-3

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