

□ 1

## Flying probe measurement accuracy improvement by external LCR integration

[Ionel, R](#) and [Matiu-Iovan, L](#)

Feb 28 2022 |

[MEASUREMENT](#) 190

This paper presents a procedure for integrating external stand-alone measurement with the Takaya APT Flying Probe machine (FP). The proposed approach can serve as a guide for merging other types of external test and measurement devices (T&M).

□ 2

## Measurement application for UV-C irradiation intensity evaluation

[Ionel, R](#); [Serban-Pop, N](#); (...); [Ordodi, V](#)

IEEE 27th International Symposium for Design and Technology in Electronic Packaging (SIITME)

2021 |

2021 IEEE 27TH INTERNATIONAL SYMPOSIUM FOR DESIGN AND TECHNOLOGY IN ELECTRONIC PACKAGING (SIITME 2021) , pp.189-192

Enriched Cited References

This paper presents a measurement application designed to evaluate Ultraviolet-C (UV-C) radiation intensity generated by commercially available lamps. Our work was done in the context of proliferation of different devices and technologies deployed with the purpose of virus (especially SARS-CoV-2) and bacteria inactivation.

□ 3

## I&M applications for educational purposes

[Ionel, R](#); [Mischie, S](#); (...); [Dughir, C](#)

Apr 2020 |

[IEEE INSTRUMENTATION & MEASUREMENT MAGAZINE](#) 23 (2) , pp.21-29

Teaching activities in the Instrumentation and Measurement (I&M) field, for both undergraduate and postgraduate students in the engineering domains, should be correlated with the industry requirements [1]-[3]. In this way, students can understand actual industry needs and gain skills in solving I&M problems occurring in associated activities.

□ 4

## Modified Langendorff experimental device for rat heart decellularization with a vibrating fluid column

[Bonciog, DD](#); [Lascu, MR](#); (...); [Ordodi, VL](#)

14th International Symposium on Electronics and Telecommunications (ISETC)

2020 |

2020 14TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS (ISETC) , pp.127-130

Enriched Cited References

In the present paper we propose the design and realization of an experimental device of Langendorff type, controlled in pressure and with the vibrating column of fluid, used for decellularization of the rat heart with a surfactant solution of sodium dodecyl sulfate (SDS).

□ 5

## Virtual Instrumentation based Prototype for Evaluation of the Cardiac Systolic Function

[Matiu-Iovan, L](#); [Ordodi, V](#); (...); [Bonciog, D](#)

14th International Symposium on Electronics and Telecommunications (ISETC)

2020 |

2020 14TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS (ISETC) , pp.107-110

This paper presents a Virtual Instrumentation (VI) based prototype designed to evaluate systolic parameters resulting from the calculation of the Blumberger hemodynamic index (BHI) and the ejection fraction of the left ventricle (FEJ). In accordance with the available results, one can assess the cardiovascular activity of the patient.

□ 6

## CAREER DEVELOPMENT OF AN ENGINEERING STUDENT THROUGH COUNSELLING AND INTERNSHIP

[Ionel, I](#); [Vasilescu, MD](#); (...); [Ionel, R](#)

2018 |

[JOURNAL OF ENVIRONMENTAL PROTECTION AND ECOLOGY](#) 19 (1) , pp.357-366

The authors review in the paper the necessity of changing the teaching style in universities, mostly in accordance to the progress of industry and social needs, and based specially on practical achievements, that complementary support the theoretical development of the student.

□ 7

## A solution for integrating the Vector CANCase XL with the Teradyne Test Station ICT

[Ionel, R](#) and [Demian, P](#)

13th International Symposium on Electronics and Telecommunications (ISETC)

2018 |

2018 13TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS (ISETC) , pp.25-28

This paper presents the functional technical approach and test results related to an integration between the Vector CAN Case XL (CCXL) module and the Teradyne In Circuit Tester (ICT). The proposed application is the achievement of a collaboration between two industrial partners: Continental Automotive Romania (Timisoara Plant) and Alfa Test S.R.L.

□ 8

## Automation of a prototype for cutting, sorting and bundling of SRC crops for planting purposes

[Nanu, S](#); [Ionel, R](#); (...); [Ionel, I](#)

Jan 2017 |

[MEASUREMENT](#) 95 , pp.201-209

This paper presents the design, implementation and testing of the automation component for a prototype machinery destined for cutting, sorting and bundling of harvested SRC crops for planting purposes. The device has been developed under the name Rod Picker and is the result of collaboration between six partners from four different countries.

☐ 9

## Voice-Controlled Smart Assistive Device for Visually Impaired Individuals

[Munteanu, D](#) and [Ionel, R](#)

12th IEEE International Symposium on Electronics and Telecommunications (ISETC)

2016 |

2016 12TH IEEE INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS (ISETC'16) , pp.186-+

This paper presents the modeling, implementation and testing of an experimental microcontroller (MCU) based smart assistive system which can be used by the visually impaired or blind people. This device includes haptic and audio feedback options from which the user can select.

☐ 10

## The usage of a zeolitic composite for quality improvement of copper contaminated mining wastewaters

[Dascalu, D](#); [Pitulice, L](#); (...); [Bizerea-Spiridon, O](#)

Jul 2015 |

[INTERNATIONAL JOURNAL OF ENVIRONMENTAL SCIENCE AND TECHNOLOGY](#) 12 (7) , pp.2285-2298

In this paper, a new material based on zeolite has been investigated in an attempt to explore the possibility of using it as an efficient adsorbent of copper(II) from industrial wastewater. This composite material is composed of volcanic tuff (containing 83 % zeolite) and cellulose in a 4 to 1 ratio.

☐ 11

## Implementation of a GPRS based remote water quality analysis instrumentation

[Ionel, R](#); [Pitulice, L](#); (...); [Spiridon, OB](#)

Apr 2015 |

[MEASUREMENT](#) 65 , pp.81-93

This paper presents the design, implementation and testing of an experimental GPRS (General Packet Radio Service) based integrated virtual instrumentation destined for water quality evaluation. The proposed system was developed for measurement conditions specific to Timisoara city, located in the western region of Romania, but can be easily adapted to other requirements.

☐ 12

## Arduino and LabVIEW in Educational Remote Monitoring Applications

[Calinoiu, D](#); [Ionel, R](#); (...); [Cioabla, A](#)

IEEE Frontiers in Education Conference (FIE)

2014 |

2014 IEEE FRONTIERS IN EDUCATION CONFERENCE (FIE) , pp.245-249

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

□ 13

### [Educational Biogas Installation Monitoring using Virtual Instrumentation Concepts](#)

[Cioabla, AE](#); [Lascu, M](#) and [Ionel, R](#)

IEEE Frontiers in Education Conference (FIE)

2014 |

2014 IEEE FRONTIERS IN EDUCATION CONFERENCE (FIE) , pp.214-222

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.

□ 14

### [Novel Solution for Automated Processing of Harvested Rods in SRC Nurseries](#)

[Ionel, I](#); [Nanu, S](#); (...); [Dughir, C](#)

International Conference on BioMass (iconBM 2014)

2014 |

ICONBM: INTERNATIONAL CONFERENCE ON BIOMASS, PTS 1 AND 2 37 , pp.853-+  
The proposed paper describes the design of an industrial machine prototype (the ROD Picker) which will be used for rod processing in Short Rotation Coppice (SRC) farms. This device has been developed under the collaboration of six partners from four different countries: Egedal Maskinfabrik NS - Denmark, Salix Energi Europa AB - Sweden, Lempe Gbr - Germany, TTZ Bremerhaven Germany, TU Dresden.

□ 15

### [Water Leakage Monitoring Education: Cross Correlation Study via Spectral Whitening](#)

[Ionel, R](#); [Ionel, S](#); (...); [Quint, F](#)

40th Annual Conference of the IEEE-Industrial-Electronics-Society (IECON)

2014 |

IECON 2014 - 40TH ANNUAL CONFERENCE OF THE IEEE INDUSTRIAL ELECTRONICS SOCIETY , pp.2465-2471

This paper presents an educational experiment designed for enabling students to interact with a domain of great interest - leakage detection and monitoring. Students will create LabVIEW/MATLAB programs and will use already existing applications in order to get familiar with signal processing concepts like Cross Correlation, Time Delay Estimation and Signal Whitening.

□ 16

### [Calculation of the Second Order Settling Time in SISO Linear Systems](#)

[Ionel, RC; Ionel, S and Ignea, A](#)

Feb 2013 |

[CIRCUITS SYSTEMS AND SIGNAL PROCESSING](#) 32 (1) , pp.375-385

This paper clearly defines the second order settling time as a special and most important case of the generalized settling time. A new calculation procedure for second order settling time determination is developed, based on a decomposition of deterministic, random or mixed non-stationary signals in steady-state and transient components.

□ 17

### [Distance Laboratory for Programming Maximum Power Point Tracking of a Photovoltaic Module](#)

[Bauer, P and Ionel, R](#)

[7th IEEE International Conference on e-Learning in Industrial Electronics \(ICELIE\)](#)

2013 |

[2013 7TH IEEE INTERNATIONAL CONFERENCE ON E-LEARNING IN INDUSTRIAL ELECTRONICS \(ICELIE\)](#) , pp.12-17

Distance laboratories using internet have been becoming increasingly popular tool in the education sector. The paper deals with basic philosophy and structure of a distance laboratory for experimentation in electrical engineering.

□ 18

### [LabVIEW Remote Panels and Web Services in Solar Energy Experiment - A Comparative Evaluation](#)

[Bauer, P and Ionel, R](#)

[8th IEEE International Symposium on Applied Computational Intelligence and Informatics \(SACI\)](#)

2013 |

[2013 IEEE 8TH INTERNATIONAL SYMPOSIUM ON APPLIED COMPUTATIONAL INTELLIGENCE AND INFORMATICS \(SACI 2013\)](#) , pp.263-268

Supported by the proliferation of remote monitoring technologies, distance laboratory experiments have become a widely spread tool in the educational sector. This paper presents the implementation of a remotely accessible collection of solar energy programs for determining electrical characteristics and Maximum Power Point (MPP) tracking of a Photovoltaic (PV) module.

□ 19

### [IDENTIFICATION-BASED TDOA ESTIMATION](#)

[Ionel, RC](#)

2013 |

[JOURNAL OF ENVIRONMENTAL PROTECTION AND ECOLOGY](#) 14 (1) , pp.107-115

The time difference of arrival (TDOA) estimation in single input/two output systems has many practical applications. Using a special system identification procedure applied to a water pipeline, this paper shows a possibility to estimate the time difference of arrival of the output signals measured with two piezoelectric sensors.

□ 20

## GPRS based data acquisition and analysis system with mobile phone control

[Ionel, R](#); [Vasiu, G](#) and [Mischie, S](#)

Jul 2012 |

[MEASUREMENT](#) 45 (6) , pp.1462-1470

Wireless based data acquisition solutions are the focus of many researchers and have a huge impact in domains like structural analysis, medical telemonitoring, transportation or environmental studies. This paper presents an experimental General Packet Radio Service (GPRS) based remote data acquisition and analysis system which offers mobile phone control possibilities.

□ 21

## Implementation of a CO Concentration Monitoring System using Virtual Instrumentation

[Ionel, RC](#); [Gontean, A](#) and [Gherban-Draut, P](#)

2012 |

ADVANCED DISTRIBUTED MEASURING SYSTEMS - EXHIBITS OF APPLICATION , pp.163-182

Different types of gas sensors are used to implement applications which investigate ambient air pollution levels. Carbon monoxide (CO) concentration measurement is an integral part of dedicated environment monitoring stand-alone specialized systems. This chapter presents an alternative solution for CO concentration monitoring, based on an original virtual instrumentation concept.

□ 22

## On Detecting Single-Talk Intervals in Two-Input Speech Separation Systems

[Mischie, S](#) and [Ionel, R](#)

10th International Symposium on Signals, Circuits and Systems (ISSCS)

2011 |

2011 10TH INTERNATIONAL SYMPOSIUM ON SIGNALS, CIRCUITS AND SYSTEMS (ISSCS)

Considering mixtures of recorded speech sources, this paper presents a method for detection the time intervals where only one input source is active. Information theoretical criteria which are used for a more general class of sources, can give wrong results in some situations. We propose a different approach to solve the problem.

□ 23

## IMPROVED TIME DELAY ESTIMATION USING EMPIRICAL MODE DECOMPOSITION

[Harfas, P](#); [Ionel, R](#) and [Gontean, A](#)

16th International Conference on Soft Computing MENDEL 2010

2010 |

16TH INTERNATIONAL CONFERENCE ON SOFT COMPUTING MENDEL 2010 , pp.325-332

When dealing with vibro-acoustic systems, time delay estimation (TDE) is a problem which has different practical applications. One of them is finding the position of one or more leaks in water distribution systems. An important processing method used for this purpose is the cross-correlation function (CCF).

☐ 24

## Remote Automatic Selection of Suitable Frequency Intervals for Improved Leak Detection

[Ionel, R;](#) [Igonea, A](#) and [Ionel, S](#)

9th RoEduNet IEEE International Conference

2010 |

9TH ROEDUNET IEEE INTERNATIONAL CONFERENCE , pp.246-+

Constant improvement of leak detection techniques in pipe systems used for liquids transportation is a priority for companies and authorities around the world. If a pipe presents leakage problems, the liquid which is lost generates specific signals which are transmitted in the material of the pipe.

☐ 25

## The Majority Principle in TDOA Estimation

[Ionel, R](#) and [Ionel, S](#)

8th International Conference on Communications

2010 |

PROCEEDINGS OF THE 2010 8TH INTERNATIONAL CONFERENCE ON COMMUNICATIONS (COMM) , pp.21-24

The time difference of arrival (TOOA) estimation as a particular time delay estimation (TOE) problem has many practical applications. One of them refers to leak detection and localization in fluid pipelines.

☐ 26

## Blind Separation of Speech Using Cochlear Filtering

[Mischie, S](#) and [Ionel, R](#)

International Conference on Applied Electronics

2010 |

2010 INTERNATIONAL CONFERENCE ON APPLIED ELECTRONICS , pp.221-224

The paper presents a simple and efficient algorithm that separates three speech signals from two mixtures. Cochlear filtering and the ratio between the time-frequency representations of the two mixtures are used. It follows a method that works for both convolutive and instantaneous mixing models.

☐ 27

## On Settling Time in Electrical Circuits with Deterministic and Random Inputs

[Ionel, R;](#) [Tiponut, V;](#) (...); [Lie, I](#)

12th WSEAS International Conference on Circuits

2008 |

PROCEEDINGS OF THE 12TH WSEAS INTERNATIONAL CONFERENCE ON CIRCUITS ,  
pp.206-+

The settling time is the most important parameter for the characterization of electrical circuits and systems in the time domain. Seen as a "practical" duration of deterministic transients, the settling time is defined on the response waveform of the circuit to an ideal input step signal.

□ 28

## Educational virtual instrumentation application for system identification

[Popa, M](#); [Ionel, R](#); (...); [Marcu, M](#)

23rd IEEE Instrumentation and Measurement Technology Conference

2006 |

2006 IEEE INSTRUMENTATION AND MEASUREMENT TECHNOLOGY CONFERENCE  
PROCEEDINGS, VOLS 1-5 , pp.842-+

The PC based virtual instrumentation is a dynamic and attractive alternative to the classic instrumentation. Its main advantages are: flexibility and adaptability, low cost, wide development of extension PC boards with measurements features, attractive representation of measurement results, in different forms, on the PCs monitor.