

POSTER SESSION

18th of September 8:30-9:30

Chairman: Paweł Chrapowicki



September 16-18, 2024, Kielce

- 1 ***The concept of an electronic seat control system***
Mariusz Duk¹, Paulina Zeliszezwska-Duk²
¹Department of Electronics and Information Technology, Lublin University of Technology
²Department of Horse Breeding and Use, University of Life Sciences in Lublin
- 2 ***Characterization of surface nanostructures of natural samples for calibration measurements***
Arkadiusz Foks¹, Dariusz Banaś¹, Paweł Jagodziński^{1,2}, Aldona-Kubala-Kukuś¹, Ilona Stabrawa¹
¹Institute of Physics, Jan Kochanowski University, Kielce, Poland
²Central Office of Measures
- 3 ***Determination of the dielectric permittivity spectrum of rapeseeds depending on their ripening stage***
Jacek Majcher¹, Marcin Kafarski², Agnieszka Szyplowska², Małgorzata Budzeń², Andrzej Wilczek²
¹Department of Electrical Engineering and Smart Technologies, Lublin University of Technology
²Institute of Agrophysics Polish Academy of Sciences
- 4 ***High-precision small-angle measurement interferometer based system***
M. Grzyb¹, D. Czulek², M. Gruszczyński², P. Sosinowski², P. Jagodziński³
¹University of Technology, Kielce / Central Office of Measures
²Central Office of Measures
³Jan Kochanowski University, Kielce / Central Office of Measures
- 5 ***Application of machine learning in optimization of coordinate measurement strategies***
Jakub Rzeczkowski, Aleksander Czajka, Sylwester Samborski, Mariusz Kłonica
Department of Production Engineering, Lublin University of Technology
- 6 ***Accuracy of thin-walled elements manufactured with end mills of different stiffnesses***
Paweł Pieško¹, Magdalena Zawada-Michałowska¹, Kamil Anasiewicz¹, Ewelina Kosicka²
¹Department of Production Engineering, Lublin University of Technology
²Department of Information Technology and Robotics in Production Engineering,
Lublin University of Technology
- 7 ***Day boundary discontinuity in GNSS clock products: scale and magnitude***
Aleksandra Maciejewska, Kamil Maciuk
Department of Integrated Geodesy and Cartography, AGH University of Krakow
- 8 ***Seasonal annual and semiannual oscillations of the permanent GNSS stations' time series. A global analysis***
Aleksandra Maciejewska, Kamil Maciuk
Department of Integrated Geodesy and Cartography, AGH University of Krakow

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- 9 ***SPM piezoresistive cantilevers calibration***
Dariusz Czulek¹, Piotr Sosinowski¹, Teodor Gotszalk², Dominik Badura², Ivo Rangelow³,
Zbigniew Siejda¹, Grzegorz Budzyń², Virpi Korpalainen⁴
¹Central Office of Measures
²Electronics and Photonics, Wrocław University of Science and Technology
³Institute of Micro and Nanoelectronics, Ilmenau University of Technology;
⁴VTT MIKES Metrology, Espoo, Finland
- 10 ***Zdolności pomiarowe stanowiska Parametrów Klimatu ŚKLGUM w Kielcach***
Karolina Bębacz¹, Rafał Jarosz²
¹Świętokrzyski Kampus Laboratoryjny Głównego Urzędu Miar,
²Główny Urząd Miar
- 11 ***Pomiar przewodności cieplnej izolatorów na aparacie HFM 446M***
Robert Kaniowski, Rafał Jarosz, Marek Kozicki
Central Office of Measures
- 12 ***Acoustic Sensor's Range Evaluation***
Roman Kochan¹, Nataliya Hots², Jerzy Józwik³, Anton Kitsera¹, Oleksii Siechko¹, Dariusz Mika⁴
¹Department of Specialized Computer Systems, Lviv Polytechnic National University
²Department of Measuring Information Technology, Lviv Polytechnic National University
³Department of Production Engineering, Mechanical Engineering Faculty,
Lublin University of Technology
⁴The Institute of Technical Sciences and Aviation, The University College of Applied Sciences in Chelm
- 13 ***An in vitro method for testing burn wound healing using a microheater***
Andrzej Kociubiński
Department of Electronics and Information Technology, Lublin University of Technology
- 14 ***The new model of conduction-cooled current leads for superconducting fault current limiters***
Michał Majka
Department of Electrical Equipment and High Voltage Techniques, Lublin University of Technology
- 15 ***Measurements of physicochemical parameters of fresh juice after atmospheric pressure plasma conditioning***
Dawid Zarzeczny¹, Joanna Pawlat¹, Piotr Terebun¹, Michał Kwiatkowski¹, Agnieszka Starek-Wójcicka²,
Marta Krajewska²
¹Department of Electrical Engineering and Smart Technologies, Lublin University of Technology
²Department of Biological Bases of Food and Feed Technologies, University of Life Sciences in Lublin

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- 16 ***Primary teeth enamel after non thermal plasma treatment***
Joanna Pawłat¹, Michał Kwiatkowski¹, Piotr Terebun¹, Dawid Zarzeczny¹, Monika Machoy², Agnieszka Mazur-Lesz³, Elżbieta Grządka⁴, Agnieszka Starek-Wójcicka⁵, Marta Krajewska⁵, Nobuya Hayashi⁶
¹Department of Electrotechnic and Smart Technologies, Lublin University of Technology
²Pomeranian Medical University, Department of Periodontology
³Private Dental Office, Szczecin
⁴Institute of Chemical Sciences, Maria Curie-Skłodowska University
⁵Department of Biological Bases of Food and Feed Technologies, University of Life Sciences in Lublin
⁶Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, Japan
- 17 ***Method for metrological identification of damage parameters in materials of biological origin***
Serhii Kharchenko¹, Mariusz Kłonica², Sylwester Samborski², Farida Kharchenko³
¹Department of Applied Mechanics, Lublin University of Technology
²Department of Production Engineering, Lublin University of Technology
³Department of Agricultural Engineering, Sumy National Agrarian University
- 18 ***Simplified approach to measurements of unmanned ground vehicle dynamics using on-board sensors***
Marek Nowakowski
Military Institute of Armoured and Automotive Technology
- 19 ***Atmospheric pressure plasma jets for polymeric surfaces' conditioning***
Michał Kwiatkowski¹, Piotr Terebun¹, Dawid Zarzeczny¹, Joanna Pawłat¹, Tomoyuki Murakami², Narumol Matsuyama³
¹Department of Electrotechnic and Smart Technologies, Lublin University of Technology
²Department of Science and Technology, Seikei University, Japan
³Department of Civil Engineering and Architecture, Saga University, Japan
- 20 ***Preparation and characterization of nanostructures for scanning probe microscopes***
Marta Goliszek-Chabros, Aldona Nowicka, Krzysztof Skrzypiec, Weronika Sofińska-Chmiel, Urszula Maciołek
Analytical Laboratory, Maria Curie-Skłodowska University
- 21 ***Adaptation of measurement methods to metrological requirements for dosimetric equipment used in the Polish Armed Forces***
Artur Czapski, Marek Natora
Department of Dosimetry and Contamination Detection Systems, Military Institute of Chemistry and Radiometry

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- 22** *Geometric structure of the surface after milling of a thin-walled element made of a selected titanium alloy*
Ewelina Kosicka¹, Magdalena Zawada-Michałowska², Paweł Pieško², Kamil Anasiewicz²
¹Department of Information Technology and Robotics in Production Engineering, Lublin University of Technology
²Department of Production Engineering, Lublin University of Technology
- 23** *General procedure for implementation of hybrid measuring systems consisting of tactile and optical measuring systems*
Adam Gąska¹, Wiktor Harmatys¹, Maciej Gruza¹, Jerzy Sładek¹, Tomasz Kowaluk², Adam Styk², Małgorzata Kujawińska², Michał Jakubowicz³, Michał Wieczorowski³, Krzysztof Stępień⁴, Piotr Gąska⁵, Adam Wójtowicz⁶, Mariusz Wiśniewski⁶
¹Faculty of Mechanical Engineering, Cracow University of Technology
²Faculty of Mechatronics, Warsaw University of Technology
³Faculty of Mechanical Engineering, Poznan University of Technology
⁴Faculty of Mechatronics and Mechanical Engineering, Kielce University of Technology
⁵Faculty of Mechanical Engineering and Robotics, AGH University
⁶Time and Length Department, Central Office of Measures
- 24** *Measurement of the dielectric permittivity spectrum with use of different measurement techniques*
Marcin Kafarski¹, Małgorzata Budzeń¹, Agnieszka Szyplowska¹, Andrzej Wilczek¹, Arkadiusz Lewandowski², Jacek Majcher³, Marcin Lewak⁴,
¹Institute of Agrophysics Polish Academy of Sciences
²Institute of Electronic Systems, Warsaw University of Technology
³Department of Electrical Engineering and Smart Technologies, Lublin University of Technology
⁴E-test Sp. z o.o.
- 25** *Dielectric spectroscopy as a valuable tool for monitoring soil behavior under different conditions*
Małgorzata Budzeń¹, Marcin Kafarski¹, Agnieszka Szyplowska¹, Andrzej Wilczek¹, Arkadiusz Lewandowski², Marcin Lewak³, Jacek Majcher⁴
¹Institute of Agrophysics, Polish Academy of Sciences,
²Institute of Electronic Systems, Warsaw University of Technology
³E-test Sp. z o.o
⁴Department of Electrical Engineering and Smart Technologies, Lublin University of Technology
- 26** *Study on the direction-dependent accuracy of identification of the stylus contact point during measurement with coordinate measure machine (CMM)*
Michał Jakubowicz¹, Tomasz Mazur², Mirosław Rucki², Zbigniew Siemiątkowski², Michał Wieczorowski¹
¹Poznan University of Technology
²Casimir Pulaski Radom University

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- 27 The new measurement system of an electric field for aircraft**
Joanna Michałowska, Paweł Tomiło
The University College of Applied Sciences in Chelm
- 28 Comparative analysis of shot peening and brushing on edge condition and surface layer properties**
Jakub Matuszak
Department of Production Engineering, Lublin University of Technology
- 29 Functional properties of coating systems for military technology applications**
Marek Michalski¹, Norbert Radek²
¹F.H. Barwa
²Kielce University of Technology
- 30 The new measurement system of an electric field for aircraft**
Joanna Michałowska¹, Paweł Tomiło²
¹Faculty of Electrical Engineering and Computer Science, Lublin University of Technology
²Faculty of Management, Lublin University of Technology
- 31 Next-Gen Surface Metrology: Deep Learning for Decision-Making Support and Parameter Prediction**
Dawid Kucharski¹, Adam Gąska², Tomasz Kowaluk³, Krzysztof Stępień⁴, Michał Wieczorowski¹,
Bartosz Gapiński¹, Michał Nawotka⁵, Marta Rępańska³, Piotr Sobiecki⁵, Piotr Sosinowski⁵, Jan Tomasiak³,
Adam Wójtowicz⁵
¹Institute of Mechanical Technology, Poznan University of Technology
²Laboratory of Coordinate Metrology, Cracow University of Technology
³Institute of Metrology and Biomedical Engineering, Warsaw University of Technology
⁴Department of Metrology and Non-conventional Manufacturing Methods, Kielce University
of Technology
⁵Central Office of Measures, Warsaw
- 32 Opracowanie metodyki badań i analiz SGP przedmiotów wykonanych z materiałów o różnej refleksyjności**
Magdalena Niemczewska-Wójcik¹, Danuta Owczarek¹, Monika Madej², Jolanta Królczyk³,
Piotr Niesłony³, Grzegorz Królczyk³, Michał Jakubowicz⁴, Bartosz Gapiński⁴, Michał Wieczorowski⁴,
Kamil Kubiak⁵, Piotr Sosinowski⁵
¹Faculty of Mechanical Engineering, Cracow University of Technology
²Faculty of Mechatronics and Mechanical Engineering, Kielce University of Technology
³Faculty of Mechanical Engineering, Opole University of Technology
⁴Faculty of Mechanical Engineering, Poznan University of Technology
⁵Central Office of Measures

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- 33 Wykorzystanie impulsowej metody echa do pomiarów przepływów woda - powietrze w przewodach poziomych i pionowych**
Elżbieta Wróblewska, Wiesław Wędrychowicz, Piotr Synowiec, Piotr Piechota, Artur Andruszkiewicz, Grzegorz Betkier
Faculty of Mechanical and Power Engineering Wrocław University of Science and Technology
- 34 Charakterystyka wypaleń spektrometrem w stopach stali**
Adrian Dera, Szymon Witczak
Polytechnic Faculty, The President Stanislaw Wojciechowski Calisia University
- 35 Measurement of selected beverages' properties after non thermal plasma treatment**
Piotr Terebun¹, Michał Kwiatkowski¹, Dawid Zarzeczny¹, Joanna Pawłat¹, Elżbieta Grządka², Agnieszka Starek-Wójcicka³, Marta Krajewska³
¹Department of Electrotechnic and Smart Technologies, Lublin University of Technology
²Institute of Chemical Sciences, Maria Curie-Skłodowska University
³Department of Biological Bases of Food and Feed Technologies, University of Life Sciences in Lublin
- 36 From Thermal Voltage Converter to Quantum Standard - Development of AC Voltage Standards**
Paweł Zawadzki, Patryk Bruszewski, Witold Rządziejewicz
Central Office of Measures
- 37 DIG-MAN: Integration of digital tools into product development and manufacturing education. Results of the project**
Marek Magdziak, Roman Wdowik
Rzeszow University of Technology
- 38 Research-based education: perspective in metrology**
Roman Wdowik, Marek Magdziak
Rzeszow University of Technology
- 39 Quantitative phase imaging techniques application in biological studies**
Michał Arabski^{1,2}, Katarzyna Gałczyńska^{1,2}, Aneta Węgierek-Ciuk¹, Sławomir Wąsik^{3,2}, Maria Baczewska⁴, Arkadiusz Kuś⁴, Oleg Łyżwiński⁴, Paula Ortega^{5,6}, Francisco Javier de la Mata^{5,6,7}, Dariusz Czulek², Małgorzata Kujawińska^{4,2}
¹Institute of Biology, Jan Kochanowski University
²Central Office of Measures
³Institute of Physics, Jan Kochanowski University
⁴Institute of Micromechanics and Photonics, Warsaw University of Technology
⁵Department of Organic and Inorganic Chemistry, University of Alcalá
⁶Institute Ramón y Cajal for Health Research, Madrid, Spain
⁷Networking Research Center on Bioengineering, Biomaterials and Nanomedicine

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- 40 Influence of tire assembling machine on tire radial force variation factor and possibilities of it's separation**
Marcin Moskwa^{1,2}, Bartosz Gapiński¹, Michał Jakubowicz¹, Michał Wieczorowski¹
¹Poznan University of Technology, Faculty of Mechanical Engineering,
²Bridgestone Poznań Sp. z o.o
- 41 Identification of the position of the kinematic center of the rotary axis of a 5-axis machine tool with the R-Test system**
Daria Salamacha, Jerzy Józwik, Paweł Pieśko
Department of Production Engineering, Lublin University of Technology
- 42 Developing a Plant Matrix Reference Material: Certified Metals and Microplastics in Leaves and Fruit for Measurement Traceability**
Jakub Karasiński¹, Anna Ruszczyńska¹, Andrzej Gawor¹, Andrii Tupys¹, Dariusz Banaś²,
Aldona Kubala-Kukuś², Michał Strzelec³, Beata Warzywoda³, Ryszard Dobrowolski⁴,
Joanna Dobrzyńska⁴, Joanna Reszko-Zygmunt⁴
¹Faculty of Chemistry, Biological and Chemical Research Center, University of Warsaw
²Faculty of Exact and Natural Sciences, Jan Kochanowski University
³Physical Chemistry and Environment Department, Central Office of Measures
⁴Faculty of Chemistry, Maria Curie-Skłodowska University
- 43 Developing a Multifunctional Polish Waters Reference Material: Certified Metals, Iones, and Microplastics for Measurement Traceability**
Anna Ruszczyńska¹, Jakub Karasiński¹, Andrzej Gawor¹, Marcin Wojciechowski¹, Dariusz Banaś²,
Aldona Kubala-Kukuś², Joanna Dumańska³, Anna Bojanowska-Czajka³
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