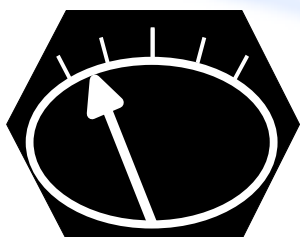


DAYS OF THE SCIENCE of the Technical University of Sofia, SOZOPOL 2023
ДНИ НА НАУКАТА на Технически университет – София, СОЗОПОЛ 2023
ДНИ НАУКИ Технического университета – София, СОЗОПОЛЬ 2023

33th INTERNATIONAL SCIENTIFIC SYMPOSIUM
XXXIII МЕЖДУНАРОДЕН НАУЧЕН СИМПОЗИУМ
XXXIII МЕЖДУНАРОДНЫЙ НАУЧНЫЙ СИМПОЗИУМ



**METROLOGY AND METROLOGY
ASSURANCE 2023**

**МЕТРОЛОГИЯ И МЕТРОЛОГИЧНО
ОСИГУРЯВАНЕ 2023**

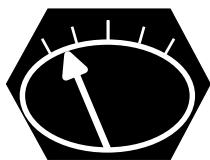
**МЕТРОЛОГИЯ И МЕТРОЛОГИЧЕСКОЕ
ОБЕСПЕЧЕНИЕ 2023**

PROGRAMME
ПРОГРАМА
ПРОГРАММА

September 7 – 11, 2023, Sozopol, Bulgaria

7 – 11 Септември 2023 г., Созопол, България

7 – 11 Сентября 2023 г., Созополь, Болгария



METROLOGY AND METROLOGY ASSURANCE 2023

33th International Scientific Symposium
September 7 -11, 2023, Sozopol, Bulgaria

ORGANISED BY



Technical University of Sofia

- ◆ *Department of Electrical Measurements*
- ◆ *Department of Precision Engineering and Measuring Instruments*



Institute of Electrical and Electronics Engineers, Bulgaria Section

WITH THE ATTENDANCE OF



Bulgarian Institute of Metrology



Union of Metrologists in Bulgaria



Bulgarian Academical Association of Metrology



Kozloduy Nuclear Power Plant

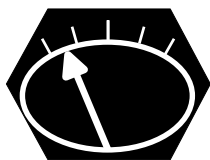
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МЕТРОЛОГИЯ И МЕТРОЛОГИЧНО ОСИГУРЯВАНЕ 2023

33^{ти} МЕЖДУНАРОДЕН НАУЧЕН СИМПОЗИУМ
7 -11 Септември, 2023, Созопол

ОРГАНИЗИРАН ОТ



Технически университет София

- ◆ Катедра “Електроизмервателна техника”
- ◆ Катедра “Прецизна техника и уредостроене”



***Институт на инженерите по
електротехника и електроника,
Българска секция***

С УЧАСТИЕТО НА



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Съюз на метролозите в България



***Българско академично
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“АЕЦ Козлодуй” ЕАД

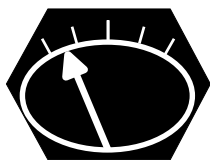
С ПОМОЩТА НА

ТУ-СОФИЯ – НАУЧНО-ИЗСЛЕДОВАТЕЛСКИ СЕКТОР

СОФТТРЕЙД

НИК 47 ЕООД

НПЛ „КИМ”



МЕТРОЛОГИЯ И МЕТРОЛОГИЧЕСКОЕ ОБЕСПЕЧЕНИЕ 2023

33^{ий} МЕЖДУНАРОДНЫЙ НАУЧНЫЙ СИМПОЗИУМ
7 – 11 Сентября 2023 г., Созополь

СИМПОЗИУМ ОРГАНИЗУЕТСЯ



Техническим университетом София

- ♦ *Кафедрой Электроизмерительной техники*
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ПРИ ПОДДЕРЖКЕ

ТУ-СОФИЯ - НАУЧНО-ИССЛЕДОВАТЕЛЬСКИЙ СЕКТОР

СОФТТРЕЙД

НИК 47 ООО

НПЛ „КИМ”

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TU-Gabrovo, Bulgaria

PROGRAMME / ПРОГРАМА / ПРОГРАММА

REGISTRATION / РЕГИСТРАЦИЯ	Hotel Lobby or On-line	7.09.2023	10:00 – 13:00 14:00 – 17:00
OPENING / ОТКРИВАНЕ / ОТКРЫТИЕ	Hall/Зала/Зал 1	8.09.2023	10:00 – 10:30
PAPERS AND SCIENCE NOTES ДОКЛАДИ И НАУЧНИ СЪОБЩЕНИЯ ДОКЛАДЫ И НАУЧНЫЕ СООБЩЕНИЯ	Hall/Зала/Зал 1	8.09.2023	10:30 – 11:45 12:00 – 14:00 14:45 – 16:45 17:00 – 18:40
		9.09.2023	09:00 – 10:30 10:45 – 12:30 13:00 – 15:15 15:30 – 18:00
		10.09.2023	09:00 – 10:30 10:45 – 13:15 13:45 – 15:30
WELCOME / ДОБРЕ ДОШЛИ / ДОБРО ПОЖАЛОВАТЬ		8.09.2023	19:00
COCKTAIL / КОКТЕЙЛ / КОКТЕЙЛЬ		9.09.2023	19:00
CLOSING / ЗАКРИВАНЕ / ЗАКРЫТИЕ	Hall/Зала/Зал 1	10.09.2023	15:30
DEPARTURE / ОТПЪТУВАНЕ / ОТЪЕЗД		11.09.2023	

7 September / Септември / Септември 2023 (Thursday / Четвъртък / Четверг)	
10:00 – 13:00	Registration / Регистрация
14:00 – 17:00	Registration / Регистрация

8 September / Септември / Септември 2023 (Friday / Петък / Пятница)	
10:00 – 10:30	Opening / Откриване / Открытие
10:30 – 11:45	Plenary Session / Пленарно заседание / Пленарное заседание
11:45 – 12:00	Coffee break / Кафе пауза / Кофе перерыв
12:00 – 14:00	<p align="center">Section / Секция I</p> <p align="center">General Aspects of Metrology. Measurement Methods. Unity and Accuracy of Measurements Общи аспекти на метрологията. Методи на измерване. Единство и точност на измерванията Общие аспекты метрологии. Методы измерения. Единство и точность измерений</p>
14:00 – 14:45	Free time / Свободно време / Свободное время
14:45 – 16:45	Section / Секция I: CONTINUES / ПРОДЪЛЖЕНИЕ / ПРОДОЛЖЕНИЕ
16:45 – 17:00	Coffee break / Кафе пауза / Кофе перерыв
17:00 – 18:40	<p align="center">Section / Секция IV</p> <p align="center">Measurements in the Industry Измервания в индустрията Измерения в промышленности</p>
19:00	Welcome / Добре дошли / Добро пожаловать

9 September / Септември / Септември 2023 (Saturday / Събота / Субота)	
09:00 – 10:30	Section / Секция III Measurement and Information Systems and Technologies Измервания и информационни системи и технологии Измерителни и информационни системи и технологии
10:30 – 10:45	Coffee break / Кафе пауза / Кофе перерыв
10:45 – 12:30	Section / Секция III: CONTINUES / ПРОДЪЛЖЕНИЕ / ПРОДОЛЖЕНИЕ
12:30 – 13:00	Free time / Свободно време / Свободное время
13:00 – 15:15	Section / Секция V Measurements in the Electrical Power Engineering Измервания в електроенергетиката Измерения в електроенергетике
15:15 – 15:30	Coffee break / Кафе пауза / Кофе перерыв
15:30 – 18:00	Section / Секция VIII Metrology Practice Метрологична практика Метрологическая практика
19:00	Cocktail / Коктейл / Коктейль

10 September / Септември / Септември 2023 (Sunday / Неделя / Воскресение)	
09:00 – 10:30	Section / Секция VII Measurements in the Ecology, Biotechnology, Medicine and Sport Измервания в екологията, биотехнологиите, медицината и спорта Измерения в екологии, биотехнологии, медицине и в спорте
10:30 – 10:45	Coffee break / Кафе пауза / Кофе перерыв
10:45 – 13:15	Section / Секция II Sensors, Transducers and Devices for Measurement of Physical Quantities Сензори, преобразуватели и уреди за измерване на физични величини Сенсоры, преобразователи и приборы для измерения физических величин
13:15 – 13:45	Free time / Свободно време / Свободное время
13:45 – 15:30	Section / Секция X Quality management and control, standardization, certification, accreditation Управление и контрол на качеството, стандартизация, сертификация, акредитация Управление и контроль качества, стандартизация, сертификация, акредитация
15:30-16:00	Closing Session / Закриваща сесия / Заключительное заседание

11 September / Септември / Септември 2023 (Monday / Понеделник / Понедельник)	
Departure / Отпътуване / Отъезд	

SCIENTIFIC PROGRAMME НАУЧНА ПРОГРАМА НАУЧНАЯ ПРОГРАММА

**8 September / Септември / Сентября 2023
(Friday / Петък / Пятница)**

PLENARY SESSION / ПЛЕНАРНА СЕСИЯ / ПЛЕНАРНОЕ ЗАСЕДАНИЕ

10:30 – 11:45

Chairman: Assoc. Prof. I. Kodjabashev, PhD

Secretary: Assoc. Prof. V. Vassilev, PhD

N. Gurov, MEng

P.1. EC 45	Roald Taymanov, Roman Teteruk, Kseniia Sapozhnikova and Sergey Medvedevskikh METROLOGICAL RELIABILITY OF MEASURING INSTRUMENTS AND THE POSSIBILITIES FOR ITS IMPROVEMENT
P.2. EC 37	Yevhen Volodarskyi, Larysa Kosheva and Oleh Kozyr REDUCING THE IMPACT OF MEASUREMENT UNCERTAINTY IN CONFORMITY ASSESSMENT
P.3. EC 59	Igor Zakharov BASIC ISSUES OF MEASURING INSTRUMENTS CALIBRATION
D P.	DISCUSSION ON THE FUTURE OF THE METROLOGY

Section / Секция I

**GENERAL ASPECTS OF METROLOGY.
MEASUREMENT METHODS. UNITY AND ACCURACY
OF MEASUREMENTS**

**ОБЩИ АСПЕКТИ НА МЕТРОЛОГИЯТА. МЕТОДИ НА
ИЗМЕРВАНЕ. ЕДИНСТВО И ТОЧНОСТ НА
ИЗМЕРВАНИЯТА**

**ОБЩИЕ АСПЕКТЫ МЕТРОЛОГИИ. МЕТОДЫ
ИЗМЕРЕНИЯ. ЕДИНСТВО И ТОЧНОСТЬ
ИЗМЕРЕНИЙ**

12:00 – 14:00

Chairman: A. Yovcheva, PhD

14:45 – 16:45

Secretary: Assoc. Prof. N. Stoyanov, PhD

Assist. Prof. I. Blagov, PhD

I.1. EC 10	Branko Sotirov, Miryana Masheva, Tzvetelin Gueorguiev and Rostislav Vasilev CALIBRATION METHODOLOGY FOR ROLLER TEST BENCH USED FOR TAXIMETER VERIFICATION
I.2. EC 25	Oleksandr Degtiarov, Volodymyr Skliarov, Igor Klyuchnyk, Oleg Zaporozhets and Igor Kliuchnyk DEVELOPMENT OF POINT METHOD FOR MEASURING MAGNETIC CHARACTERISTICS OF TECHNICAL OBJECT
I.3. EC 26	Oleh Velychko and Tetyana Gordiyenko EVALUATION OF THE LONG-TERM DRIFT OF TRAVELLING STANDARD BETWEEN AND DURING COMPARISONS
I.4. EC 27	Valentyn Isaiev, Oleh Velychko and Yurii Anokhin USING OF AC-DC VOLTAGE TRANSFER STANDARD WITHOUT CURRENT SHUNT IN CALIBRATION OF DIGITAL AMMETER

1.5. EC 28	Volodymyr Skliarov, Oleksandr Degtiarov, Oleg Zaporozhets, Kostiantyn Ozerskyi and Andrey Pystovyi A STATISTICAL APPROACH TO THE ASSESSMENT AND EVALUATION OF METROLOGICAL CHARACTERISTICS OF REFERENCE MATERIALS
I.6. EC 31	Nikolay Alexandrov and Kaloyan Popov SPECTRAL MEASUREMENTS OF HARMFUL RADIATION OF DIFFERENT NON-COHERENT LIGHT SOURCES
I.7. EC 44	Igor Zakharov, Olesia Botsiura, Iryna Zadorozhna, Valerii Semenikhin, Dimitar Diakov and Ganna Grokhova MEASURING INSTRUMENTS CALIBRATION: ADVANCED REALISATION OF KEY ELEMENTS
I.8. EC 46	Anton Pronin, Kseniia Sapozhnikova and Roald Taymanov DEVELOPMENT OF STANDARDS FOR MEASURING INSTRUMENTS AND SYSTEMS BASED ON ARTIFICIAL INTELLIGENCE
I.9. EC 64	Lubomir Spasov METHODS OF LASER MICRO-FLUIDIC DEVICES PRODUCTION
I.10. EC 60	Igor Zakharov, Iryna Zadorozhnaya and Ganna Grokhova MEASUREMENT UNCERTAINTY EVALUATION OF OBJECT COORDINATES USING CMM SHOPFLOOR SYSTEMS.
I.11. EC 68	Dimitar Dichev, Dimitar Diakov, Iliia Zhelezarov, Hristiana Nikolova, Oleksandr Oleksandr and Ralitzia Dicheva ACCURACY EVALUATION OF FLAT SURFACES MEASUREMENTS IN DYNAMIC MODE
I.12. EC 12	Daniela Virovska NATIONAL STANDARD OF BIM FOR VIBRATION ACCELERATION. TRACEABILITY. INTERNATIONAL COMPARISONS.
D I.	DISCUSSION ON THE 'GENERAL ASPECTS OF METROLOGY. MEASUREMENT METHODS. UNITY AND ACCURACY OF MEASUREMENTS'

Section / Секция IV

17:00 – 18:40

MEASUREMENTS IN THE INDUSTRY

ИЗМЕРВАНИЯ В ИНДУСТРИЯТА

ИЗМЕРЕНИЯ В ПРОМЫШЛЕННОСТИ

Chairman: Prof. B. Sotirov, PhD

Secretary: Assoc. Prof. V. Vassilev, PhD

N. Gurov, MEng

IV.1. EC 9	Nikolay Koshevoy, Tatiana Rozhnova, Olena Kostenko, Vitalii Siroklyn, Maksym Tsekhovskoi and Aleksey Potilchak DEVICES FOR MEASURING TEMPERATURE IN INDUSTRIAL CONDITIONS
IV.2. EC 21	Valeriy Naidenov METHOD FOR ESTIMATING A RESIDUAL SERVICE LIFE OF FIBRE-REINFORCED INDUSTRIAL CONCRETE FLOORINGS AND PAVEMENTS
IV.3. EC 22	Alexander Shestakov, Denis Lebedev and Olga Ibryaeva DECISION TREE ENSEMBLES APPLIED TO BENCHMARK DATA SET FOR THREE-PHASE CORIOLIS MASS FLOW METERING
IV.4. EC 29	Mihail Zagorski, Radoslav Miltchev, Todor Gavrilov, Nikolay Nikolov and Yavor Sofronov REVERSE ENGINEERING OF A PART USING 2D IMAGES
IV.5. EC 33	Nikolay Kolev, Irina Aleksandrova and Hristo Metev MODELING AND OPTIMIZATION OF TOOL LIFE WHEN MACHINING 42CRMO4+QT STEEL ON SWISS-TYPE CNC LATHES

IV.6. EC 34	Georgi Karlovski, Kalin Krumov, Irina Aleksandrova SELECTION OF COOLANT AND CUTTING BASED ON STATISTICAL MEASUREMENTS WHEN WORKING WITH QUICK-CHANGE HOLDERS
IV.7. EC 56	Dobri Komarski, Dimitar Diakov, Hristiana Nikolova and Velizar Vassilev ANALYSIS OF THE IMPACT OF THE CENTRAL CONNECTING ELEMENT STIFFNESS ON THE ACCURACY CHARACTERISTICS OF MICRO-POSITIONING ELASTIC MODULE WITH "BUTTERFLY" FLEXURES
D IV.	DISCUSSION ON THE 'MEASUREMENTS IN THE INDUSTRY'

**9 September / Септември / Сентября 2023
(Saturday / Събота / Субота)**

Section / Секция III

09:00 – 10:30

10:45 – 12:30

MEASUREMENT AND INFORMATION SYSTEMS AND TECHNOLOGIES

ИЗМЕРВАНИЯ И ИНФОРМАЦИОННИ СИСТЕМИ И ТЕХНОЛОГИИ

ИЗМЕРИТЕЛЬНЫЕ И ИНФОРМАЦИОННЫЕ СИСТЕМЫ И ТЕХНОЛОГИИ

Chairman: Prof. I. Zakharov, DSc

Secretary: Assist. Prof. I. Blagov, PhD

Assist. Prof. K. Galabov, PhD

III.1. EC 4	Marina Miroshnyk, Olga Zaichenko, Anatolii Miroshnyk and Nataliia Zaichenko GRAPHICAL MODELS FOR DEFECTOSCOPY OF DIELECTRICS
III.2. EC 11	Vera Golian, Nataliia Golian, Kyrylo Halchenko, Zoia Dudar and Valentyna Kyriy RESEARCH AND MODELLING OF COMPARED CARTOGRAPHIC OBJECTS IN UKRAINE
III.3. EC 17	Andrey Serov, Kirill Ivanenko and Nikolay Serov A WAY TO REDUCE THE RMS MEASUREMENT TIME FOR THE METHOD OF AVERAGING THE SQUARES OF SAMPLES
III.4. EC 20	Ivo Malakov and Velizar Zaharinov CLASSIFICATION AND MATHEMATICAL MODELS OF THE PROBLEMS FOR SIZE RANGES OPTIMIZATION OF TECHNICAL PRODUCTS
III.5. EC 35	Krasimir Bosilkov, Tsvetelin Georgiev, Elena Nikolova, Maya Radulova and Tetiana Chunikhina MEASUREMENT PROCEDURE FOR METROLOGICAL VERIFICATION OF THE MEASURING CHANNELS OF THE AUTOMATED PROCESS CONTROL SYSTEM FOR MONITORING THE TURBINE GENERATOR PARAMETERS (CTK-EP-M)
III.6. EC 36	Nadya Pagelska, Vladimir Bashev and Ivaylo Tsenov REDUCING THE IMPACT OF MEASUREMENT UNCERTAINTY IN CONFORMITY ASSESSMENT
III.7. EC 42	Valentin Mateev and Iliana Marinova MACHINE LEARNING APPROACH FOR NANO- MAGNETIC FE ₂ O ₃ PARTICLE CLASSIFICATION
III.8. EC 50	Teodora Pasarelska, Plamen Tzvetkov and Rosen Pasarelski RESEARCH APPROACH AND SPECTRUM ALLOCATION ANALYSIS FOR 5G NETWORK DEVELOPMENT
III.9. EC 53	Ted Spasov and Bozhidar Dzhudzhev MOBILE STATION FOR COLLECTING MEASUREMENT INFORMATION

III.10. EC 54	Nikolai Kirilov, Bozhidar Dzhudzhev, Nikolay Stoyanov and Antonia Pandelova VIRTUAL INSTRUMENT FOR MASS MEASUREMENTS
III.11. EC 61	Valentin Mateev and Iliana Marinova ANALYSIS OF GAS DIFFUSION MONITORING CHAMBER FOR TWO COMPONENT MIXTURES PROPERTIES
III.12. EC 66	Tetiana Rozhnova, Nikolay Koshevoy, Oleksandr Zabolotnyi, Vitalii Siroklyn, Olena Kostenko and Ali Bekirov STUDY OF PRESSURE SENSORS FOR INFORMATION-MEASURING SYSTEMS
III.13. EC 63	Maryna Miroshnyk, Olga Zaichenko, Anatolii Miroshnyk and Nataliia Zaichenko EVENT PROCESSING METHODS IN DIGITAL DEVICES OF REAL-TIME COMPUTER SYSTEMS
D III.	DISCUSSION ON THE 'MEASUREMENT AND INFORMATION SYSTEMS AND TECHNOLOGIES'

Section / Секция V

13:00 – 15:15

MEASUREMENTS IN THE ELECTRICAL POWER ENGINEERING

**ИЗМЕРВАНИЯ В ЕЛЕКТРОЕНЕРГЕТИКАТА
ИЗМЕРЕНИЯ В ЭЛЕКТРОЭНЕРГЕТИКЕ**

*Chairman: Assoc. Prof. G. Milushev, PhD
Secretary: Assist. Prof. A. Pandelova, PhD
N. Gurov, MEng*

V.1. EC 13	Abdelaziz Lakehal, Lotfi Saidi, Abdelmoumene Hechifa and Arnaud Nanfak A METHODOLOGY FOR OPERATIONAL FAULT DIAGNOSIS IN ELECTRICAL POWER TRANSFORMER: PRACTICAL APPLICATION
V.2. EC 14	Andrey Serov, Alexander Shatokhin and Nikolay Serov IMPROVED SOFTWARE PLL FOR MAINS FREQUENCY MEASUREMENTS
V.3. EC 30	Nikolina Petkova NEW SOFTWARE SYSTEM FOR POWER TRANSFORMERS DIAGNOSIS BASED ON PARTIAL DISCHARGES APPEARANCES
V.4. EC 47	Valentin Mateev and Iliana Marinova ENERGY AND ENVIRONMENT MONITORING ONLINE CONTROLLER FOR RENEWABLE ENERGY SYSTEMS
V.5. EC 52	Iliyana Bogdanova, Igor Zakharov and George Milushev CONSIDERATION OF THE IMPACT OF MEASUREMENT UNCERTAINTY IN DECISION MAKING AT TEMPERATURE RISE TEST OF POWER TRANSFORMERS
V.6. EC 55	George Milushev ELECTRIC VEHICLE CONSUMPTION TEST WITH ROAD TRACE CORRECTION VIA THE POWER/ENERGY PROFILE
V.7. EC 65	Valentin Mateev, Zhelyazko Kartunov and Iliana Marinova STUDY OF HYDROGEN GAS LEAKAGE MONITORING IN EV FUEL CELL BY VOLUMETRIC SOURCE RECONSTRUCTION
V.8. EC 70	Oleh Velychko, Valentyn Gaman and Sergii Kursin METROLOGICAL TRACEABILITY OF POWER MEASUREMENTS AT NANOWAVE FREQUENCIES
V.9. EC 79	George Milushev and Antonia Pandelova CONFORMITY ASSESSMENT BY CLAMP-ON TESTING OF A MULTI-ROD EARTHING SYSTEM
D V.	DISCUSSION ON THE 'MEASUREMENTS IN THE ELECTRICAL POWER ENGINEERING'

Section / Секция VIII**15:30 – 18:00**

METROLOGY PRACTICE
МЕТРОЛОГИЧНА ПРАКТИКА
МЕТРОЛОГИЧЕСКАЯ ПРАКТИКА

Chairman: Prof. D. Dichev, DSc
Secretary: Assist. Prof. K. Galabov, PhD
Assist. Prof. I. Blagov, PhD

VIII.1. EC 75	Desislava Dimitrova, Dimitar Diakov COORDINATE MAESUREMENTS BY MEANS OF CMM, ADVANTAGES AND DISADVANTAGES
VIII.2. EC 40	Luboslav Hristow, Momchil Lazarov, Ivan Ivanov and Petya Vasileva NATIONAL INTERLABORATORY COMPARISON OF CALIBRATION LABORATORIES IN THE FIELD OF PRESSURE MEASUREMENT, BIM-MM-P-2022-01
VIII.3. EC 41	Igor Zakharov, Kiril Banev, Elena Nicolova, Dimitar Diakov, Olesia Botsiura and Alexandr Zakharov CALIBRATION OF HYGROMETERS: FEATURES OF MEASUREMENT RESULTS PROCESSING
VIII.4. EC 49	Zlatka Chavdarova UNCERTAINTY OF MEASUREMENT ALCOHOL CONCENTRATION WITH EVIDENTIAL BREATH ANALYSERS
VIII.5. EC 57	Dimitar Dichev, Iliya Zhelezarov, Dimitar Diakov, Ralitzza Dicheva, Oleksandr Kupriyanov, Ivo Malakov, Hristiana Nikolova, Kalin Anastasov, Stefan Valkov and Nikolay Petrov MATHEMATICAL MODEL FOR INCREASING ACCURACY WHEN MEASURING LINEAR QUANTITIES IN CONDITIONS OF EXTERNAL MECHANICAL IMPACTS
VIII.6. EC 58	Dimitar Dichev, Iliya Zhelezarov, Kalin Anastasov, Dimitar Diakov, Ralitzza Dicheva, Oleksandr Kupriyanov, Ivo Malakov, Hristiana Nikolova, Maria Ormanova and Nikolay Petrov INCREASING THE ACCURACY OF MAKING THREAD GAUGES BASED ON STATISTICAL METHODS
VIII.7. EC 32	Ivan Mitev, Simeon Tsenkulovski and Georgi Karlovski DETERMINATION OF THE PENETRATION DEPTH OF LASER MARKING OF GLASS FIBER REINFORCED POLYMERS
VIII.8. EC 32	Hristiana Nikolova, Velizar Vassilev ESTIMATION OF FORM DEVIATIONS BY PROFILE ANALISYS
VIII.9. EC 72	Rositsa Miteva, Juliana Stefanova WHEEL DIAMETER MEASUREMENTS
VIII.10. EC 77	Krasimir Dimitrov, Rumen Nikolov DEVELOPMENT AND RESEARCH OF COORDINATE-MEASUREMENT SYSTEMS
VIII.11. EC 69	Irina Katsarska LASER SYSTEM FOR DRYING PAINTS AND VARNISHES
D VIII.	DISCUSSION ON THE 'MEASUREMENTS IN THE ELECTRICAL POWER ENGINEERING'

**10 September / Септември / Септември 2023
(Sunday / Неделя / Воскресение)**

Section / Секция VII

9:00 – 10:30

**MEASUREMENTS IN THE ECOLOGY,
BIOTECHNOLOGY, MEDICINE, AND SPORT
ИЗМЕРВАНИЯ В ЕКОЛОГИЯТА,
БИОТЕХНОЛОГИИТЕ, МЕДИЦИНАТА И В СПОРТА
ИЗМЕРЕНИЯ В ЭКОЛОГИИ, БИОТЕХНОЛОГИИ,
МЕДИЦИНЕ И В СПОРТЕ**

*Chairman: Assoc. Prof. N. Stoyanov, PhD
Secretary: Assist. Prof. A. Pandelova, PhD
Assist. Prof. I. Blagov, PhD*

VII.1. EC 23	Volodymyr Skliarov, Heorhii Skliarov and Olha Lenskaia A STUDY OF THE RELIABILITY OF PROCESSING THE RESULTS OF ASSESSING BIOMARKERS OF HUMAN LONGEVITY
VII.2. EC 38	Radostina Angelova, Daniela Sofronova, Maria Dimova, Rositsa Velichkova, Detelin Markov and Iskra Simova AIR PERMEABILITY OF PROTECTIVE FACE MASKS
VII.3. EC 39	Radostina Angelova, Daniela Sofronova, Maria Dimova and Maria Ivanova EVALUATING THE CLOTHING INSULATION OF T-SHIRTS USING THERMAL MANIKIN
VII.4. EC 51	Ilian Georgiev and Antonia Pandelova DEVELOPMENT OF A WIRELESS SENSOR NODE FOR EARLY FIRE DETECTION
VII.5. EC 74	Olena Piven and Tetiana Chunikhina MEASUREMENT ACCURACY AT THE RESEARCHES OF THE FOOD EMULSION'S, STABILITY, BASED ON THE REGRESSIVE ANALYSIS
VII.6. EC 67	Dimitar Diakov, Alexander Gerchev ACETABULAR-FEMORAL TOTAL JIP JOINT PROTHESSES DURABILITY PROPERTIES
VII.7. EC 62	Hristiana Nikolova, Dimitar Diakov, Alexander Gerchev STUDY OF ENDURANCE PROPERTIES OF STEMMED FEMORAL COMPONENTS
D VII.	DISCUSSION ON THE 'MEASUREMENTS IN THE ECOLOGY, BIOTECHNOLOGY, MEDICINE, AND SPORT'

Section / Секция II

10:45 – 13:15

**SENSORS, TRANSDUCERS AND DEVICES FOR
MEASUREMENT OF PHYSICAL QUANTITIES**

**СЕНЗОРИ, ПРЕОБРАЗОВАТЕЛИ И УРЕДИ ЗА
ИЗМЕРВАНЕ НА ФИЗИЧНИ ВЕЛИЧИНИ**

**СЕНСОРЫ, ПРЕОБРАЗОВАТЕЛИ И ПРИБОРЫ ДЛЯ
ИЗМЕРЕНИЯ ФИЗИЧЕСКИХ ВЕЛИЧИН**

*Chairman: Prof. D. Diakov, DSc
Secretary: Assist. Prof. I. Blagov, PhD
Assist. Prof. A. Pandelova, PhD*

II.1. EC 5	Ivan Ivanchev DEFLECTIONS IN RC BEAMS. COMPARISON OF EXPERIMENTAL AND CALCULATED ACCORDING EUROCODE 2 RESULTS AT DIFFERENT LOADS
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II.2. EC 7	Ivan Fedosov and Alexander Shestakov SYNTHETIC DATA GENERATION FOR THERMOCOUPLES. AN ORIGINAL APPROACH TO SIMULATION MODELLING OF A MEASUREMENT FUNCTION
II.3. EC 8	Nikolay Koshevoy, Tatiana Rozhnova, Ali Bekirov, Oleksandr Zabolotnyi, Olena Kostenko and Oleksandr Pylypenko APPLICATION OF FIBER-OPTIC TECHNOLOGY FOR MEASUREMENT OF PHYSICAL QUANTITIES
II.4. EC 24	Ivan Ivanchev INFORMATION-MEASUREMENT SYSTEM FOR EXPERIMENTAL INVESTIGATION OF REINFORCED CONCRETE BEAMS
II.5. EC 48	George Ivanov ADVANCED SYSTEM FOR LANGMUIR-BLODGETT FILM DEPOSITION WITH DISTRIBUTED PROCESSING ARCHITECTURE
II.6. EC 78	Ivan Ivanchev ASSESSMENT OF IN-SITU CONCRETE COMPRESSIVE STRENGTH IN RC STRUCTURES BY DESTRUCTIVE AND NON-DESTRUCTIVE METHODS
II.7. EC 76	Dobri Komarski, Dimitar Diakov and Rumens Nikolov ANALYSIS OF THE TRANSFER CURVE AND THE CENTER OF ROTATION OF ELASTIC MICRO-POSITIONING MODULE INFLUENCE IN ROBUST SYSTEMS
II.8. EC 70	Miroslav Kokalarov, Svitlana Artiukh and Viktoria Kniazieva THERMAL POWER PLANTS OPERATORS PSYCHOPHYSIOLOGICAL INDICATORS STUDY
II.9. EC 71	Desislava Dimitrova, Hristiana Nikolova METROLOGY IN ADDITIVE MANUFACTURING
II.10. EC 73	Krasimir Bosilkov, Vladimir Lalev, Kiril Banev and Biser Borisov DIGITAL TRANSFORMATION OF ACTIVITY MANAGEMENT OF GEOMETRICAL MEASUREMENTS IN NPP METROLOGY LABORATORY
D II.	DISCUSSION ON THE 'SENSORS, TRANSDUCERS AND DEVICES FOR MEASUREMENT OF PHYSICAL QUANTITIES'

Section / Секция X

12:30 – 15:30

**QUALITY MANAGEMENT AND CONTROL,
STANDARDIZATION, CERTIFICATION,
ACCREDITATION**

**УПРАВЛЕНИЕ И КОНТРОЛ НА КАЧЕСТВОТО,
СТАНДАРТИЗАЦИЯ, СЕРТИФИКАЦИЯ,
АКРЕДИТАЦИЯ**

**УПРАВЛЕНИЕ И КОНТРОЛЪ КАЧЕСТВА,
СТАНДАРТИЗАЦИЯ, СЕРТИФИКАЦИЯ,
АКРЕДИТАЦИЯ**

Chairman: Prof. G. Dukendjiev, PhD

Secretary: Assoc. Prof. V. Vassilev, PhD

Assist. Prof. K. Galabov, PhD

X.1.	Miroslav Voytchev CURRENT STATUS OF THE INTERNATIONAL IEC AND EUROPEAN EN STANDARDS FOR RADIATION PROTECTION INSTRUMENTATION
X.2.	Svitlana Gavrylenko METHODS FOR IMPROVING THE QUALITY OF CLASSIFICATION ON IMBALANCED DATA

X.3.	Zlatka Chavdarova - Hristova ALCOHOL MEASUREMENTS IN LEGAL METROLOGY
X.4.	Velizar Vassilev, Sanja Ercegovic Razic and Angel Terziev QUALITY MANAGEMENT AND CONTROL OF THE HIGHER EDUCATION
X.5.	Velizar Vassilev, Rositsa Miteva QUALITY SYSTEM OF TECHNICAL UNIVERSITY OF SOFIA VIA STUDENTS OPINIONS
X.6.	Evgeniy Volodarsky, Oleh Kozyr and Larysa Kosheva CONTROL CHARTS FOR CORRELATED MEASUREMENT DATA
X.7.	Georgi Dukendjiev PROJECT MIRACLE EFFECTIVE MEASUREMENT CONTROL CAPABILITIES
D X.	DISCUSSION ON THE 'QUALITY MANAGEMENT AND CONTROL, STANDARDIZATION, CERTIFICATION, ACCREDITATION'

CLOSING SESSION / ЗАКРИВАЩА СЕСИЯ / ЗАКЛЮЧИТЕЛНОЕ ЗАСЕДАНИЕ

15:30 – 16:00

Chairman: Assoc. Prof. I. Kodjabashev, PhD

Secretary: Assoc. Prof. V. Vassilev, PhD

N. Gurov, MEng

C.1.	G. Milushev SUMMARY REPORT ON 33 TH ISS MMA 2023
C.2.	I. Kodjabashev SCIENCE NOTES REGARDING 33 TH ISS MMA 2023 AND THE NEXT 34 TH ISS MMA 2024

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