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- **IEEE Ukraine Section.**
- **IEEE Ukraine Section Information Theory Society Chapter.**
- The National Defence University of Ukraine named after Ivan Cherniakhovskiy.
- Igor Sikorsky Kyiv Polytechnic Institute, Ukraine.
- National Aviation University of Kyiv, Ukraine.
- Kharkiv National University of Radio Electronics, Ukraine.
- National Aerospace University «Kharkiv Aviation Institute», Kharkiv, Ukraine.

PARTNERS

- Saycom Company Kyiv, Ukraine.

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- **Prof. Oleksand Yudin.**
IEEE Ukraine Section Information Theory Society Chapter.

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- **Prof. Vladimir Lukin,** National Aerospace University «Kharkiv Aviation Institute», Kharkiv, Ukraine.
- **Prof. Olha Suprun,** IEEE Ukraine Section Information Theory Society Chapter.
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- **Prof. Serhiy Pogorily,** Taras Shevchenko National University of Kyiv, Ukraine.
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- **Associate Prof. Victoria Ivannikova,** National Aviation University of Kyiv, Ukraine.

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- **Prof. Olha Suprun**, IEEE Ukraine Section Information Theory Society Chapter.
- **Prof. Sergy Sidchenko**, Kharkov National University of Radio Electronics, Ukraine.

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- Prof. Piotr Gawliczek, Uniwersytet Warminsko-Mazurski w Olsztynie, Poland.
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- Prof. Wojciech Welskop, Rector of The Academy of Business and Health Sciences, Poland.
- Prof. Anna Walulik, Academy of Ignatianum in Krakow, Poland.
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- Prof. Oleksandr Lemeshko, Kharkiv National University of Radio Electronics, Ukraine.
- Prof. Hanna Khakhanova, Kharkov National University of Radio Electronics, Ukraine
- Prof. Iryna Klymenko, Igor Sikorsky Kyiv Polytechnic Institute Ukraine.
- Prof. Eduard Zharikov, Igor Sikorsky Kyiv Polytechnic Institute Ukraine.
- Prof. Oleksandr Rolik, Igor Sikorsky Kyiv Polytechnic Institute, Ukraine.
- Prof. Bogdan Kornienko, Igor Sikorsky Kyiv Polytechnic Institute, Ukraine.
- Prof. Ihor Tereikovskiy, Igor Sikorsky Kyiv Polytechnic Institute, Ukraine.
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- Associate Prof. Elena Chebanyuk, National Aviation University of Kyiv, Ukraine.
- Prof. Svetlana Loboda, National Aviation University of Kyiv, Ukraine.
- Prof. Hennadii Khalimov, Kharkiv National University of Radio Electronics, Ukraine.
- Prof. Valeriy Lakhno, National University of Life and Environmental Sciences of Ukraine, Ukraine.
- Prof. Oleksandr Potii, JSC Institute of Information Technology, Kharkiv, Ukraine.
- Prof. Mykhailo Shelest, Chernihiv Polytechnic National University (CPNU), Chernihiv, Ukraine.
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- Prof. Bakhytzhan Akhmetov, Abai Kazakh National Pedagogical University, Almaty, Kazakhstan.
- Oleh Suprun, Taras Shevchenko National University of Kyiv, Ukraine.
IEEE Ukraine Section Information Theory Society Chapter.
- Olesya Afanasyeva, Pedagogical University in Technics Institute, Krakow, Poland.
- Valeriy Lakhno, National University of Life and Environmental Sciences of Ukraine.
- Dmytro Lande, Head of Department, Institute of Information Recording NAS of Ukraine, Kyiv, Ukraine.
- Serhii Yevseiev, Simon Kuznets Kharkiv National University of Economics, Kharkiv, Ukraine.
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- Ruslan Hryshchuk, Korolyov Zhytomyr Military Institute, Zhytomyr, Ukraine.
- Kateryna Molodetska, Zhytomyr National Agroecological University, Zhytomyr, Ukraine.
- Ivan Opirskyy, Lviv Polytechnic National University, Lviv, Ukraine.
- Oleksii Smirnov, Central Ukrainian National Technical University, Kropyvnytskyi, Ukraine.
- Associate Prof. Andrii Krasnorutsky, I.Kozhedub Kharkiv National Air Force University, Ukraine

- Associate Prof. Oleg Kulitsa, National University of Civil Defence of Ukraine, Cherkasy, Ukraine
- Associate Prof. Musienko Oleksandr, I. Kozhedub Kharkiv National Air Force University, Ukraine.
- Oleksandr Slobodyanyuk, Kamianets-Podilskyi National Ivan Ohienko University.
- Associate Prof., Serhii Pidlisnii, Kharkov National University of Radio Electronics, Ukraine.
- Associate Prof. Albert Lekakh Kharkov National University of Radio Electronics, Ukraine.
- Roman Puhachov, National Technical University "Kharkiv Politechnic Institute".
- Associate Prof. Andrii Krasnorutsky, Kharkov National University of Radio Electronics, Ukraine.

LOCAL TECHNICAL COMMITTEE

- Oleh Suprun, Technical secretary, Taras Shevchenko National University of Kyiv, Ukraine.
- Associate Prof. Vitaliy Tverdokhlib, Technical secretary Track 1, Kharkov National University of Radio Electronics, Ukraine.

CONFERENCE SECTIONS

15th December 2021

9.45 - 10.00 – Registration

(On-line session in Zoom:

<https://us02web.zoom.us/j/89928686396?pwd=R2ZmSFZUWjJSZVk5bVJ4MkRsWHgwQT09>

Conference ID: 899 2868 6396

Access code: 283939)

10.00-12.00 – Opening of conference. Plenary reports

(On-line session in Zoom:

<https://us02web.zoom.us/j/89928686396?pwd=R2ZmSFZUWjJSZVk5bVJ4MkRsWHgwQT09>

Conference ID: 899 2868 6396

Access code: 283939)

Moderators:

Prof. Oleksandr Yudin, IEEE Ukraine Section Information Theory Society Chapter , Ukraine.

Associate Prof. Victoria Ivannikova, National Aviation University of Kyiv, Ukraine.

Technical secretary

Oleh Suprun, Taras Shevchenko National University of Kyiv, *Ukraine*.

10:00 - 10:20	The role of IEEE in Ukraine. IEEE Ukraine Section.	Prof. Felix Yanovsky, CHAIR IEEE Ukraine Section. National Aviation University of Kyiv, Ukraine
10:20 - 10:40	Research focus of the IEEE Ukraine Section of Information Theory Society Chapter.	Prof. Oleksandr Yudin, CHAIR, IEEE Ukraine Section Information Theory Society Chapte
10:40 - 11:00	Marker Information Coding For Structural Clustering Of Spectral Space	Oleksandr Slobodyanyuk, Kamianets-Podilskyi National Ivan Ohienko University Kamianets-Podilskyi, Ukraine
11:00 - 11:20	Text Information Source Modeling for Learning Monitoring System	Yurii Kravchenko, Taras Shevchenko National University of Kyiv, Ukraine

11:20 - 11:40	<p>The Complex Method of Coreferent Pairs Detection in a Ukrainian-language Text Based on a BiLSTM Neural Network</p>	<p>Artem Kramov, Sergiy Pogorilyy, Computer Engineering Department Taras Shevchenko National University of Kyiv Kyiv, Ukraine Sergii Telenyk, Department of Theoretical Electrical Engineering and Computer Science Cracow University of Technology Cracow, Poland</p>
11:40 - 12:30	<p>Increase Efficiency of Relational Databases Using Instruments of Second Normal Form</p>	<p>Oleksandr Rolik, Volodymyr Khmeliuk, Kseniia Ulianytska, Maryna Khmeliuk, Uliana Kolomiets, Department of Information Systems and Technologies National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute" Kyiv, Ukraine</p>

12.00-13.00 –Technical break.

13.00-18.00 –Working Tracks 1 and Tracks 3.

Track 1 and Track 3

13.00 -18.00 – Track 1 and Tracks 3

(On-line session in Zoom:

<https://us02web.zoom.us/j/81847197197?pwd=ZzlWVE05c3lvZStlNQ1FRRDNUcTQ0QT09>

Conference ID: 818 4719 7197

Access code: 725931).

Moderators:

Prof. Volodymyr Barannik, Kharkov National University of Radio Electronics, Ukraine.

Technical secretary:

Associate Prof., Vitaliy Tverdokhlib, Kharkov National University of Radio Electronics, Ukraine.

Oleh Suprun, Taras Shevchenko National University of Kyiv, *Ukraine*.

Track ID - 1	Track 1 Title Source Coding and Data Compression	Author	Number of accepted papers
Tr.1.1	Optimizing of neural network methods of image machine analysis for application at high-density optical media readout system	Vyacheslav Petrov, Ievgen Beliak	<i>18 poster</i>
Tr.1.2	Providing a Desired Quality of BPG Compressed Images for FSIM Metric	Vladimir Lukin, Fangfang Li, Yanjun Fu, Krzysztof Okarma	<i>25</i>
Tr.1.3	The Visual Information Structures Formation Model for the Visual Information Systems Processing	Hennadii Khudov, Igor Butko, Oleksandr Makoveichuk, Irina Khizhnyak, Dmytro Misiuk, Nazar Shamrai	<i>27</i>
Tr.1.4	Analysis of noisy image lossy compression by BPG using visual quality metrics	Vladimir Lukin, Bogdan Kovalenko, Sergey Krivenko, Victoria Naumenko	<i>28</i>
Tr.1.5	Video Coding Method in a Condition of Providing Security and Promptness of Delivery	Oleksandr Yudin, Andrii Cherniak, Dmytro Havrylov, Pavlo Hurzhii, Natalia Korolyova, Yevhenii Sidchenko	<i>79</i>
Tr.1.6	The Analysis of The Codes in The Textual Steganography Technologies	Oleksandr Iakovenko, Sergey Podlesny, Albert Lekakh, Maksym Parkhomenko, Oleksandr Semenchenko, Oleksandr Karaban	<i>80</i>

Tr.1.7	Model of steganographic system depending on indirect conditional dependencies	Natalia Barannik, Victoriya Himenko, Dmitry Barannik, Oleksandr Ignatyev, Serhii Turenko, Olena Matviichuk-Yudina	81 <i>poster</i>
Tr.1.8	Creating a mathematical model for estimating the impact of errors in the process of reconstruction of non-uniform code structures on the quality of recoverable video images	Oleksandr Yudin, Volodymyr Artemov, Vladimir Barannik, Andrii Krasnorutsky, Ivan Tupitsya, Gennady Pris	82 <i>poster</i>
Tr.1.9	Marker Information Coding For Structural Clustering Of Spectral Space	Vladimir Barannik, Yuriy Ryabukha, Roman Onyshchenko, Andrii Krasnorutsky, Sergii Shulgin, Oleksandr Slobodyanyuk	83
Tr.1.10	Evaluating Of The Resistance Of Crypto-Compression Image Codograms To Errors In The Data Transmission Channel	Vladimir Barannik, Valeriy Barannik, Serhii Sidchenko, Irina Hurzhii, Dmitry Barannik, Yurii Babenko	84 <i>poster</i>
Tr.1.11	Technology Increasing Capacity Protected Channel Delivery Video Data Telecommunication Systems Critical Infrastructure	Vitaliy Tverdokhlib, Oleksin Oleksandr, Kateryna Zakomorna, Dmytro Zhuikov, Dmytro Dvukhglavov, Volodymyr Kryvonos	86
ACCEPTED PAPERS, TOTAL		<i>11</i>	
SUBMITTED PAPERS, TOTAL		<i>17</i>	
ACCEPTANCE RATE		<i>0.64</i>	

Track ID – 3	Track 3 Title Information Theory and Technologies Security	Author	Number of accepted papers
Tr. 3.1	Information Transmission Protection Using Linguistic Steganography With Arithmetic Encoding And Decoding Approach	Olha Suprun, Oleh Suprun, Maksym Ivasenko	39 <i>poster</i>
Tr. 3.2	Design of robotic systems in the basis of sapr intel quartus prime	Serhii Toliupa, Yuriy Samokhvalov, Serhii Buchyk, Serhii Shtanenko	45

Tr.3.3	Analysis of SIDH algorithn	Vladyslav Chevardyn, Ivan Lavryk, Oleksii Pryima, Ihor Samoylov	66
Tr.3.4	Description and Application of Network And Terminal Security Device Based on the Block Algorithm of Cryptographic Transformation of Information Using Random Keys	Ihor Pampukha, Genadiy Zhyrov, Volodymyr Druzhynin, Ivan Chetverikov, Serhey Lienkov, Larysa Komarova	90
Tr.3.5	Harmonization of Systems of Discretionary Differentiation of Access to Information Systems at the Stage of Modernization	Oleksandr Yudin, Mykhailo Strelbitskyi, Valentyn Mazur, Viktorii Ivannikova, Olha Suprun, Mykola Prysiashniuk	92 <i>poster</i>
Tr.3.6	Design and Performance Evaluation of Channel Coding Schemes for Information Technologies	Juliy Boiko, Ilya Pyatin, Ruslan Chorny, Tetiana Davydova	93
ACCEPTED PAPERS, TOTAL		6	
SUBMITTED PAPERS, TOTAL		14	
ACCEPTANCE RATE		0.43	

16th November 2021

10.00-18.00 – Parallel working Tracks groups.

12.30-13.00 – Technical break.

Track 2

10.00 - 18.00 – Track 2

(On-line session in Zoom:

<https://us02web.zoom.us/j/84750537769?pwd=SEdXcXpvdll0WlFKNm4xM1cvalVvZz09>).

Moderators:

Prof. Yurii V. Kravchenko, Taras Shevchenko National University of Kyiv, Ukraine.

Prof. Sergiy D. Pogorilyy, Taras Shevchenko National University of Kyiv, Ukraine.

Secretary:

Artem Kramov, Taras Shevchenko National University of Kyiv, Ukraine.

Pavlo Biletskyi, Taras Shevchenko National University of Kyiv, Ukraine.

Track ID - 2	Track 2 Title Network Information Theory	Author	Number of accepted papers
Tr.2.1	Strategies for Control Automated Production Centers to Ensure the Functional Stability of Enterprise Information Systems	Iryna Zamrii, Valentyn Sobchuk, Hanna Vlasyk, Yulianna Tsvietkova	2
Tr.2.2	The Method Detection of Radio Signals by Estimating the Parameters Signals of Eversible Gaussian Propagation	Natalia Lukova- Chuiko, Serhii Toliupa, Serhii Laptiev, Tetiana Laptieva, Oleksandr Laptiev,	4
Tr.2.3	The Method of Solving Problems of Optimal Restoration of Telecommunication Signals	Hanna Vlasyk, Iryna Zamrii, Viktoriya Shkapa, Serhii Laptiev, Alla Kalyniuk, Tetiana Laptieva	5
Tr.2.4	Estimations of the Convergence Rate of the Fourier Transformation for Data Processing Efficiency Improvement	Valentyn Sobchuk, Inna Kal'chuk, Yurii Kharkevych, Galyna Kharkevych	14 <i>poster</i>
Tr.2.5	Confirmation of mutual synchronization of the TPMs using hash functions	Mykyta Aleksandrov	17

Tr.2.6	Biharmonic Equations Integrals Application Features at Signals Restoration by Means of Interpolation Polynomials	Andriy Makarchuk, Inna Kal'chuk, Yurii Kharkevych, Svitlana Salnikova	19
Tr.2.7	Method of determining the required number of database nodes in a distributed data processing system	Vadym Mukhin, Yaroslav Kornaga, Valerii Zavgorodnii, Ivan Fartushnyi, Valerii Nikitin, Andrew Stepanov	29
Tr.2.8	Study of the Features of Ensuring Quality Indicators in Multiservice Networks of the Wi-Fi Standard	Andriy Dudnik, Yurii Kravchenko, Olexander Trush, Olga Leshchenko, Natalia Dahno, Rakyt'skyi Vadym	40
Tr.2.9	Methodology for Calculating Information Protection from Parameters of its Distribution in Social Networks	Vitalii Savchenko, Volodymyr Akhramovych, Taras Dzyuba, Serhii Laptiev, Nataliia Lukova-Chuiko, Tetiana Laptieva	48 <i>Poster</i>
Tr.2.10	Integrated Model of Positioning and Situation Monitoring System Using LoRa, WiFi, GSM Technology	Oleksandr Tymochko, Yurii Afanasiev, Vadym Fustii, Volodymyr Afanasiev, Serhii Fediuk, Boris Telyatnik	56
Tr.2.11	Dynamic Model of the Spread of Viruses in a Computer Network Using Differential Equations	Nataliia Dakhno, Olga Leshchenko, Yuri Kravchenko, Andriy Dudnik, Olexandr Trush, Victor Khankishiev	57 <i>poster</i>
Tr.2.12	Face Recognition Technology Improving Using Convolutional Neural Networks	Oleksandr Miakshyn, Pavlo Anufriiev, Yevgen Bashkov	63
Tr.2.13	Providing of Data Center Information Security on the Basis of Performance Balance	Vitalii Savchenko, Halyna Haidur, Taras Dzyuba, Vitalii Marchenko, Oleksandr Matsko, Ivan Havryliuk	65 <i>poster</i>

Tr.2.14	The Limited Solutions Method for Telecommunications Network Information Security Models	Valentyn Sobchuk, Farhod Asrorov, Oleg Perehuda, Anna Sukretna, Oleksandr Laptiev, Nataliia Lukova- Chuiko	68 <i>poster</i>
Tr.2.15	Methodology for Determining Long-Term State Development Scenarios	Vasyl Bychenkov, Olena Levchuk, Yurii Kirpichnikov, Maksym Holoborodko, Olexandr Golovchenko, Oksana Tyshchenko	70
Tr.2.16	Model of the Sensor Network Based on Unmanned Aerial Vehicle	Oleksandr Trush, Ivan Kravchenko, Mariy Trush, Oleksandr Pliusch, Andrii Dudnik, Kateryna Shmat	78 <i>poster</i>
Tr.2.17	Network Device Emulation Method for Implementation of Network Functions	Olena Starkova, Kostiantyn Herasymenko, Kyryl Nikolchev, Yurii Ahafonov, Viktorii Ivannikova	85
Tr.2.18	The Technique of Operational Processing of Heterogeneous Surveillance Data in Assessing Situation in Geographic Information Systems	Mykhailo Rakushev, Oleksandr Matsko, Oleksandr Permiakov, Oleksandr Lavrinchuk, Oleksandr Koshlan, Ihor Varlamov	88 <i>poster</i>
Tr.2.19	Text Information Source Modeling for Learning Monitoring System	Oleksandr Pliushch, Roman Mykolaichuk, Vira Mykolaichuk, Oleksandr Makhovych, Alisa Mykolaichuk, Olga Kravchenko	94
Tr.2.20	Computer Model of Radio Frequency Power Amplifier	Oleksandr Pliushch, Yurii Kravchenko, Olena Matviichuk- Yudina, Anatolii Rybydajlo, Oleksandr Trush, Roman Mykolaichuk	95

Tr.2.21	Forecast Model of Technical State of Telecommunication System: Intelligent Statistical Data Processing	Oleksandr Yudin, Volodymyr Artemov, Maksym Tyshchenko, Yevhenii Makhno, Nataliya Tarasenko, Oleksandr Shapran	96 <i>poster</i>
Tr.2.22	Reconfiguration of Computations in Multiprocessor Computing System	Oleksandr Yudin, Oleg Mashkov, Yurii Kravchenko, Andrii Cherniak, Serhii Salkutsan, Maksym Tyshchenko	97 <i>poster</i>
ACCEPTED PAPERS, TOTAL		22	
SUBMITTED PAPERS, TOTAL		28	
ACCEPTANCE RATE		0.79	

16th December 2021

10.00-18.00 – Parallel working Tracks groups.

12.30-13.00 – Technical break.

Track 4

10.00 - 18.00 – Track 4

(On-line session in Zoom:

<https://us02web.zoom.us/j/88020372527?pwd=S29iVDNqa1BpRHZIRVRHd0dQRVBzZz09>

Conference ID: 880 2037 2527

Access code: 930913).

Moderators:

Prof. Oleksandr Rolik, Igor Sikorsky Kyiv Polytechnic Institute, Ukraine.

Prof. Bogdan Korniyenko, Igor Sikorsky Kyiv Polytechnic Institute, Ukraine.

Secretary:

Oleh Suprun, Technical secretary, Taras Shevchenko National University of Kyiv, Ukraine.

Track ID – 4	Track 4 Title Information Theory in Computer Science	Author	Number of accepted papers
Tr. 4.1	Nonparametric Two-Sample Heterogeneity Test for Continuous Fuzzy Data	Dmitriy Klyushin, Kateryna Golubeva	1
Tr. 4.2	The Complex Method of Coreferent Pairs Detection in a Ukrainian-language Text Based on a BiLSTM Neural Network	Sergii Telenyk, Sergiy Pogorilyy, Artem Kramov	3 <i>poster</i>
Tr.4.3	Model Complex of Information System “Gis Poliv” and Remote Sensing Data use to Adjust Model Parameters	Vitalii Polishchuk, Yaryna Butenko, Olga Zhovtonog, Kateryna Chorna, Alla Saliuk	6
Tr.4.4	Modeling Future Aviation and IT Specialists’ Professional Skills Development on Mathematical Practical Training with Application of Information Technologies	Olena Karupu, Tetiana Oleshko, Valeria Pakhnenko	8
Tr.4.5	Increase Efficiency of Relational Databases Using Instruments of Second Normal Form	Oleksandr Rolik, Kseniia Ulianytska, Maryna Khmeliuk, Volodymyr Khmeliuk, Uliana Kolomiets	24 <i>poster</i>

Tr.4.6	Multifunctional Methodology of Expert Evaluation Alternatives in Tasks of Different Information Complexity	Oleksandr Nesterenko, Igor Netesin, Valery Polischuk, Yurij Selin	31 <i>poster</i>
Tr.4.7	Energy Efficient based Algorithm of Robots Swarm Searching in an Unknown Area	Yosyp Albrekht, Andrii Pysarenko	35 <i>poster</i>
Tr.4.8	Increasing Accuracy of Recognition Systems using Decoding Algorithm	Larysa Katerynych, Eduard Safarov	41
Tr.4.9	Development of Technological Process Control System Based on Industry 4.0	Oleh Kovaliuk, Dmytro Kovaliuk	42
Tr.4.10	Information System for Optimal Control Process of Granulation in a Fluidised Bed	Bogdan Korniyenko, Lesya Ladieva, Vladyslav Sementsov, Liudmyla Osipa, Oleksandr Yudin	47 <i>poster</i>
Tr.4.11	Information Control System for the Production of Mineral Fertilizers in the Granulator with a Fluidized Bed	Bogdan Korniyenko, Lesya Ladieva, Liliya Galata, Andrii Nesteruk, Olena Matviichuk-Yudina	49 <i>poster</i>
Tr.4.12	Web Application Critical Resources Protection	Bogdan Korniyenko, Lesya Ladieva, Liliya Galata, Olesya Yakovenko, Andrii Nesteruk, Viktorii Ivannikova	50 <i>poster</i>
Tr.4.13	The Quality of Service Management in a Critical IT Infrastructure	Valerii Kolesnik, Oleksandr Rolik	60 <i>poster</i>
Tr.4.14	Parallel Distributed Implementation of Neuroevolution of Augmenting Topologies in Continuous Control Tasks	Illia Achour, Anatoliy Doroshenko	67 <i>poster</i>
Tr.4.15	Method of Features Analysis on Transition Data	Eduard Manziuk, Olexander Barmak, Iurii Krak, Olexander Mazurets, Olexander Pylypiak	71
Tr.4.16	Generative Adversarial Networks at Development of Automatic Document Processing System	Oleksii Zhuchenko, Anton Korotynskiy, Andrii Savula	72
Tr.4.17	Using Structured Data in Interoperable Medical Systems	Valentyn Hahen, Volodymyr Palahin, Olena Palahina	75
Tr.4.18	A Model for Managing the Functional Services of a Common Information Space for Defense Forces Based on Smart Technology	Yurii Kirpichnikov, Olena Levchuk, Vasyl Bychenkov, Maksym Holoborodko, Olexandr Golovchenko	77

Tr.4.19	Forecasting and Analysis of Online Orders Rejections Using Data Mining Algorithms and Penalty Function	Oleh Suprun, Nina Klimenkova, Maksym Melnyk, Sonya Lavriy	91
Tr.4.20	Methods of Designing Adaptive Systems of Multilevel Monitoring and Diagnosis for Recognition and Forecasting of Technological Condition of Complex Technical Objects	Nadiia Marchenko, Olena Nechyporuk Olha Suprun, Oksana Martynova, Oleh Suprun, Maksym Melnyk	99 <i>poster</i>
ACCEPTED PAPERS, TOTAL		20	
SUBMITTED PAPERS, TOTAL		31	
ACCEPTANCE RATE		0.63	