

# Program of the International Workshop on Navigation and Motion Control 20 – 24 September 2021, Russia

## September 20 (Monday)

|               |   |
|---------------|---|
| 08.30         | Meeting at Concern CSRI Elektropribor, JSC, 9a, Bolshaya Posadskaya St.   |
| 09.00         | Bus departure   |
| 13.00         | Arrival at the destination  |
| 14.00 – 15.00 | Lunch   |
| 15.00 – 15.10 | <b>Welcome and Introduction.</b> O.A. Stepanov (Concern CSRI Elektropribor, JSC, ITMO University, Russia)   |
| 15.10 – 16.05 | <b>Session 1. Chairman A.V. Motorin</b> (Concern CSRI Elektropribor, JSC, ITMO University, Russia)<br>А.И. Машошин (АО «Концерн «ЦНИИ «Электродприбор, Россия)<br>Проблемные вопросы создания систем управления АНПА (In Russian) |
| 16.05 – 16.20 | Break<br>Photo op   |
| 16.20 – 17.15 | <b>M.A. Barulina, D.V. Kondratov</b> (Institute of Precision Mechanics and Control of the Russian Academy of Sciences, Russia)<br>Local and Nonlocal Elasticity Theories. Modern Applications in Instrumentation                  |
| 17.15 – 17.25 | Break   |
| 17.25 – 18.20 | <b>N.T. Zhigunova</b> (Concern CSRI Elektropribor, JSC, Russia)<br>Scientific Writing in English  |
| 18.20 – 19.20 | Dinner  |

## September 21 (Tuesday)

|               |  |
|---------------|--|
| 09.00 – 10.00 | Breakfast<br><b>Session 2. Chairman S.M. Tarasov</b> (Concern CSRI Elektropribor, JSC, Russia)   |
| 10.00 – 10.25 | <b>D.V. Antonov, O.V. Zaitsev</b> (Concern CSRI Elektropribor, JSC, ITMO University, Russia)<br>Using Pitch Prediction in Stabilization Problems   |
| 10.25 – 10.50 | <b>A.R. Novichkov, I.K. Goncharov, A.Y. Egorushkin</b> (LLC NTLab-SK, Bauman Moscow State Technical University, Russia)<br>Using IMU Array in Integrated INS/GNSS Receiver for Cycle Slip Detection and Repair |
| 10.50 – 11.05 | <b>D.A. Gontar</b> (Concern CSRI Elektropribor, JSC, ITMO University, Russia)<br>Compensation for the Temperature Dependence of the FOG Output Signal  |
| 11.05 – 11.20 | Break  |

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## September 21 (Tuesday)

11.20 – 11.45

**V. Harr, C. Doer** (*Institute of Control Systems, Karlsruhe Institute of Technology, Germany*),  
**G.F. Trommer** (*Institute of Systems Optimization KIT, Germany, ITMO University, Russia*)  
Real-Time Human Pose Estimation and Classification on Visual and Thermal Images

11.45 – 12.10

**C. Doer**, (*Institute of Control Systems, Karlsruhe Institute of Technology, Germany*),  
**G.F. Trommer** (*Institute of Systems Optimization KIT, Germany, ITMO University, Russia*)  
Radar Inertial Odometry: Navigation in Challenging Environments

12.10 – 12.20

Break

12.20 – 12.45

**S.M. Tarasov** (*Concern CSRI Elektropribor, JSC, Russia*)  
Calibration of the Azimuth Drive Angle Sensor of the Mobile Automated Astronomical System by Stars Observation

12.45 – 13.10

**P.N. Nikolaev, A.I. Leonov** (*Samara University, Russia*)  
Providing Nanosatellite Triaxial Gravitational Orientation Using Magnetic Actuators

13.10 – 14.10

Lunch

**Session 3. Chairman D.V. Antonov** (*Concern CSRI Elektropribor, JSC, Russia*)

14.10 – 14.35

**V.V. Bogomolov** (*Concern CSRI Elektropribor, JSC, Russia*)  
Field Test Results of the Long Baseline Navigation Solutions under Large A Priori Position Uncertainty

14.35 – 15.00

**A.V. Motorin** (*Concern CSRI Elektropribor, JSC, ITMO University, Russia*),  
**R.U. Titov** (*ITMO University, Russia*)  
Efficiency Analysis of Feature-Based and Featureless SLAM Algorithms

15.00 – 15.25

**I.A. Lomaka** (*Space Research Department, Samara University, Russia*)  
Formation of an Additional Motion Control Loop for the Nanosatellite to Adapt its Onboard Model to the Current Operating Conditions

15.25 – 15.50

Break

15.50 – 16.15

**V.V. Prokopovich, A.V. Shafranyuk** (*Concern CSRI Elektropribor, JSC, Russia*)  
Model of Signal Mark Detection in Passive Sonar System

16.15 – 16.40

**A.V. Motorin, O.A. Stepanov, A.A. Krasnov, A.V. Sokolov** (*Concern CSRI Elektropribor, JSC, ITMO University, Russia*)  
Adaptive Compensation for Vertical Accelerations in Gravimetric Survey Data Processing

16.40 – 17.00

Break

17.00 – 18.00

**A.B. Соколов** (*АО «Концерн «ЦНИИ «Электронприбор», Университет ИТМО, Россия*)  
Текущее состояние и перспективы развития АО «Концерн «ЦНИИ «Электронприбор»

18.00 – 19.00

Dinner

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## September 22 (Wednesday)

09.00 – 10.00

Breakfast

**Session 4. Chairman A.V. Styazhkina** (*Concern CSRI Elektropribor, JSC, Russia*)

10.00 – 10.25

**M.A. Sidorova, M.V. Efremov, M.A. Barulina** (*Institute of Precision Mechanics and Control of the Russian Academy of Sciences, Russia*)

Using Statistical Methods to Predict the Probability of No-Failure Operation Time of Radio-Electronic Equipment for Highly Reliable Applications

10.25 – 10.50

**A.V. Styazhkina, A.A. Belogurov, Ya.V. Belyaev** (*Concern CSRI Elektropribor, JSC, Russia*)

Design of the Capacitive Dual-Mass Micromechanical Gyroscope

10.50 – 11.15

**I.A. Iznairov, M.V. Efremov, M.A. Barulina** (*Institute of Precision Mechanics and Control of the Russian Academy of Sciences, Russia*)

Optimization of a Suspension of a Micromechanical Accelerometer in an Angular Velocity Measurement Unit

11.15 – 11.40

**D.R. Devetyarov** (*Concern CSRI Elektropribor, JSC, Russia*)

Radiation Resistance Test Results of the Polarization-Maintaining Single-Mode GeO<sub>2</sub> Doped Fiber Waveguides with Elliptical Core

11.40 – 12.00

Break

12.00 – 12.55

**N.T. Zhigunova** (*Concern CSRI Elektropribor, JSC, Russia*)

Scientific Writing In English

12.55 – 14.00

Lunch

**Session 5. Chairman V.V. Prokopovich** (*Concern CSRI Elektropribor, JSC, Russia*)

14.00 – 14.55

**A.V. Sholokhov, R.R. Bikmayev** (*Interregional Public Institution «Institute of Engineering Physics», Branch of the Peter the Great Military Academy of Strategic Rocket Troops, Russia*)

Autonomous Terrain Navigation Systems Adjusted by Geospatial Data

14.55 – 15.20

Break

Photo op

15.20 – 16.15

**O.N. Granichin** (*Saint Petersburg State University, Russia*)

Emergent Intelligence and Distributed Stochastic Optimization

16.15 – 16.30

Break

16.30 – 17.25

**V.G. Peshekhonov** (*Concern CSRI Elektropribor, JSC, ITMO University, Russia*)

Development Perspectives for Navigation Technology

Meeting with the young scientists

18.00 – 19.00

Dinner

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## September 23 (Thursday)

|               |                       |
|---------------|-----------------------|
| 09.00 – 10.00 | Breakfast             |
| 10.00 – 16.00 | Entertainment Program |
| 16.00 – 17.00 | Lunch                 |
| 20.00         | Dinner                |

## September 24 (Friday)

|               |   |
|---------------|---|
| 09.00 – 10.00 | Breakfast   |
|               | <b>Session 6. Chairman D.R. Devetyarov</b> ( <i>Concern CSRI Elektropribor, JSC, Russia</i> )   |
| 10.00 – 10.25 | <b>V.V. Chalkov, A.N. Shevchenko</b> ( <i>Concern CSRI Elektropribor, JSC, Russia</i> )<br>Experimental Study of Nuclear Gyro Bias Compensation Using- the Quality Factor Estimation  |
| 10.25 – 10.40 | <b>M.A. Vlasova, A.N. Shevchenko, G.V. Bezmen</b> ( <i>Concern CSRI Elektropribor, JSC, ITMO University, Russia</i> )<br>Development of a Cell Design with Alkali Metal Vapors for Miniature Magnetometers with Optical Pumping |
| 10.40 – 10.55 | <b>M.I. Evstifeev, A.S. Zavitaev</b> ( <i>Concern CSRI Elektropribor, JSC, ITMO University, Russia</i> )<br>Estimation of the Nuclear Magnetic Gyroscope Sensitivity to Inertial Influences                                     |
| 10.55 – 11.05 | Break   |
| 11.05 – 11.30 | <b>A.A. Zueva</b> ( <i>Concern CSRI Elektropribor, JSC, Russia</i> )<br>International Databases and Publishers and Their Requirements to Publications   |
| 11.30 – 11.55 | <b>M.A. Власова</b> ( <i>АО «Концерн «ЦНИИ «Электронприбор», Университет ИТМО, Россия</i> )<br>Армия–2021. Авиакластер (In Russian)   |
| 11.55 – 12.10 | Break   |
| 12.10 – 13.00 | <b>Closing Ceremony</b><br><b>O.A. Stepanov</b> ( <i>Concern CSRI Elektropribor, JSC, ITMO University, Russia</i> )   |
| 13.00 – 14.00 | Lunch   |
| 16.00         | Departure to Saint Petersburg   |



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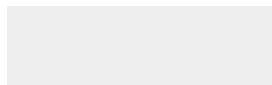
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