

## PROGRAM COMMITTEE

### Co-Chairs:

**V.L. Mironov** – corresponding member of RAS, Kirensky Institute of Physics SB RAS, Russia;

**S.A. Nikitov** – corresponding member of RAS, Kotel'nikov Institute of Radio Engineering and Electronics RAS, Russia;

**A.P. Potekhin** – corresponding member of RAS, Institute of Solar-Terrestrial Physics SB RAS, Russia

### Members:

**P.P. Bobrov** – Dr., prof., Omsk State Pedagogical University, Omsk;

**V.G. Bondur** – academician of RAS, Institute for Scientific Research of Aerospace Monitoring "AEROCOSMOS", Moscow;

**G.S. Bordonsky** – Dr., prof., Institute of Natural Resources, Ecology and Cryology SB RAS, Chita;

**T.N. Chimitdorzhiev** – Dr., Institute of Physical Materials Science SB RAS, Ulan-Ude;

**P.N. Dagurov** – Dr., Institute of Physical Materials Science SB RAS, Ulan-Ude;

**B. Erdenee** – PhD, the Remote Sensing Society of Mongolia, Ulaanbaatar, Mongolia;

**V.B. Kashkin** – Dr., prof., Siberian Federal University, Krasnoyarsk;

**B.G. Kutuza** – Dr., prof., Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Moscow;

**O.Y. Lavrova** – PhD, Space Research Institute RAS, Moscow;

**Y.L. Lomukhin** – Dr., prof., Institute of Physical Materials Science SB RAS, Ulan-Ude;

**L.M. Mitnik** – Dr., prof., V.I. Il'ichev Pacific Oceanology Institute, Vladivostok;

**M. Neumann** – PhD, JPL, California Institute of Technology, Pasadena, USA;

**L.B. Neronsky** – Dr., prof., JSC "Radio Engineering Corporation "Vega", Moscow;

**A.A. Romanov** – Dr., prof., JSC "Russian Space Systems", Moscow;

**M. Sato** – Dr. Eng., prof., Tohoku University, Sendai, Japan;

**V.A. Selin** – PhD, JSC "Russian Space Systems", Moscow;

**A.P. Semenov** – Dr., prof., Institute of Physical Materials Science SB RAS, Ulan-Ude;

**G.S. Sharygin** – Dr., prof., Tomsk State University of Control Systems and Radio Electronics, Tomsk;

**R. Tsolmon** – PhD, prof., National University of Mongolia, Ulaanbaatar, Mongolia;

**V.A. Zaichko** – Adviser of the Head of Roscosmos, Moscow;

**A.I. ZaKharov** – PhD, Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Fryazino

## ORGANIZING COMMITTEE

### Chair:

**A.P. Semenov** – Dr., prof., Institute of Physical Materials Science SB RAS, Ulan-Ude

### Vice Chairs:

**T.N. Chimitdorzhiev** – Dr., Institute of Physical Materials Science SB RAS, Ulan-Ude;

**A.I. ZaKharov** – PhD, Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Fryazino

### Scientific Secretary:

**A.V. Bazarov** – PhD, Institute of Physical Materials Science SB RAS, Ulan-Ude

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**V.A. Antipov** – PhD, JSC “Russian Space Systems”, Moscow;

**E.B. Atutov** – PhD, Institute of Physical Materials Science SB RAS, Ulan-Ude;

**A.K. Baltukhaev** – Institute of Physical Materials Science SB RAS, Ulan-Ude;

**B.V. Basanov** – Institute of Physical Materials Science SB RAS, Ulan-Ude;

**E.V. Batueva** – PhD, Institute of Physical Materials Science SB RAS, Ulan-Ude;

**V.V. Boronoev** – Dr., prof., Institute of Physical Materials Science SB RAS, Ulan-Ude;

**P.N. Dagurov** – Dr., Institute of Physical Materials Science SB RAS, Ulan-Ude;

**M.Y. Dembelov** – PhD, Institute of Physical Materials Science SB RAS, Ulan-Ude;

**A.V. Dmitriev** – PhD, Institute of Physical Materials Science SB RAS, Ulan-Ude;

**B.C. Dorzhiev** – PhD, Institute of Physical Materials Science SB RAS, Ulan-Ude;

**K.S. Emelyanov** – JSC “Russian Space Systems”, Moscow;

**I.I. Kirbizhekova** – PhD, Institute of Physical Materials Science SB RAS, Ulan-Ude;

**Y.L. LomuKhin** – Dr., prof., Institute of Physical Materials Science SB RAS, Ulan-Ude;

**O.N. Ochirov** – Institute of Physical Materials Science SB RAS, Ulan-Ude

# CONFERENCE PLAN

## Plenary Session

**Session I** – SAR Polarimetry and Interferometry. Earth Covers Radiometry

**Session II** – Radiophysical Diagnostic Methods of Environment. Algorithms, Tools and Results

**Session III** – Special presentations

## June 23, Sunday

Arrival of participants

## June 24, Monday

**Conference Hall at Buryat Scientific Centre of SB RAS**

*(6, Sakhyanovoy St., 3rd floor)*

9:00	Registration	
9:30	Opening of the Conference	
10:00	Plenary Session	
11:30		Coffee Break
12:00	Plenary Session	
13:30		Lunch
14:30	Session I	
16:15		Coffee Break
16:45	Session II	
18:30		Gala-Dinner

## June 25, Tuesday

**“Buryatia” Hotel**

*(47a, Komunisticheskaya St., main entrance)*

10:00	Excursion to Ethnographical Museum	
13:00		Lunch
14:00	Excursion to Buddhist Temple (Ivolginsky Datsan)	
16:00	Departure to Enkhaluk	
19:00		Dinner

## June 26, Wednesday

**Conference Hall at Resting Camp “Enkhaluk”**

10:00		Breakfast
11:00	Session II	
13:00		Coffee Break
13:15	Session I	
15:00		Lunch
16:00	Round Table. Discussion	
19:00		Dinner

### **June 27, Thursday**

#### ***Conference Hall at Resting Camp “Enkhaluk”***

10:00		Breakfast
11:00	Session I	
12:45		Coffee Break
13:15	Session II	
15:00		Lunch
16:00	Round Table. Discussion	
19:00		Dinner

### **June 28, Friday**

#### ***Conference Hall at Resting Camp “Enkhaluk”***

10:00		Breakfast
11:00	Session II	
13:00		Coffee Break
13:15	Session I	
15:00		Lunch
16:00	Round Table. Discussion	
19:00		Dinner

### **June 29, Saturday**

#### ***Conference Hall at Resting Camp “Enkhaluk”***

10:00		Breakfast
11:00	Session III	
12:45		Coffee Break
13:15	Session III	
14:15		
16:00	Departure to Ulan-Ude	

### **June 30, Sunday**

Departure of participants

# CONFERENCE PROGRAMM

## June 24, Monday

9:00 Registration

9:30 Welcome and Opening Remarks

**A.P. Semenov**

*(Dr., prof., Institute of Physical Materials Science SB RAS, Ulan-Ude)*

9:45 The Signing of the Agreement

Institute of Physical Materials Science SB RAS – Tohoku University

### PLENARY SESSION

Chair:

**A.P. Semenov**

*(Dr., prof., Director, Institute of Physical Materials Science SB RAS, Ulan-Ude)*

10:00 Russian Federal Space Agency Activities for the Creation of the Space Radar Observation Facilities and Integrated Data Processing Technologies

**V.A. Zaichko**<sup>1</sup>, V.A. Selin<sup>2</sup>

*(<sup>1</sup>Russian Federal Space Agency, Moscow; <sup>2</sup>JSC "Russian Space Systems", Moscow)*

10:30 Possibilities of Russian Operator of Remote Sensing Space Systems: Status and Prospects

**V.A. Selin**

*(JSC "Russian Space Systems", Moscow)*

11:00 Remote sensing with SAR

**A.I. Zakharov**

*(Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Fryazino)*

### PLENARY SESSION

12:00 Microwave Remote Sensing for Environmental Studies in Northeast Asia

**Motoyuki Sato**

*(Tohoku University, Japan)*

12:30 Some Results of "PLASMA-PROGRESS" and "RADAR-PROGRESS" Active Space Experiments  
**V.V. Khakhinov**, A.P. Potekhin, V.P. Lebedev, D.S. Kyshnarev, S.S. Alsatkin  
(Institute of Solar-Terrestrial Physics SB RAS, Irkutsk)

13:00 Prospects and Challenges of the Radar Earth Sensing  
**L.B. Neronskiy**  
(JSC "Radio Engineering Corporation "Vega", Moscow)

## SESSION I

Co-Chairs:

**L.B. Neronskiy**  
(Dr., prof., Leading Researcher, JSC "Radio Engineering Corporation "Vega", Moscow)

**A.I. Zakharov**  
(PhD, Head of the Laboratory, Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Fryazino)

14:30 Retrieving Temperature of the Near-Surface Active Layer of the Arctic Tundra Soils from L-Band Brightness Temperature Observations  
**K.V. Muzalevskiy**<sup>1</sup>, V.L. Mironov<sup>1</sup>, A.A. Shvaleva<sup>2</sup>  
(<sup>1</sup>Kirensky Institute of Physics SB RAS, Krasnoyarsk; <sup>2</sup>Siberian State Aerospace University, Krasnoyarsk)

14:45 Estimation of Snow Water Equivalent by Using of Satellite Radiometry for the Steppe Zone of Western Siberia  
K.Yu. Berezin, A.V. Dmitriev, **V.V. Dmitriev**  
(Omsk State Pedagogical University, Omsk)

15:00 Dependence of Brightness Temperature Measured by the SMOS Satellite on the Azimuth Angle  
P.P. Bobrov<sup>1</sup>, V.L. Mironov<sup>2</sup>, **A.S. Yaschenko**<sup>1</sup>  
(<sup>1</sup>Omsk State Pedagogical University, Omsk; <sup>2</sup>Kirensky Institute of Physics SB RAS, Krasnoyarsk)

15:15 Features of the Brightness Characteristics of the South of Western Siberia and Northern Kazakhstan During Snow Thawing Measured by the SMOS Satellite  
P.P. Bobrov<sup>1</sup>, V.L. Mironov<sup>2</sup>, **A.S. Yaschenko**<sup>1</sup>  
(<sup>1</sup>Omsk State Pedagogical University, Omsk; <sup>2</sup>Kirensky Institute of Physics SB RAS, Krasnoyarsk)

- 15:30 Effects of Soil Hydrophysical Properties on Temporal Dynamics of Brightness Temperature at Microwaves  
**P.P. Bobrov**<sup>1</sup>, **O.A. Ivchenko**<sup>1</sup>, **S.V. Krival'tsevich**<sup>2</sup>  
 (<sup>1</sup>Omsk State Pedagogical University, Omsk; <sup>2</sup>Omskiy Nauchno Issledovatel'skiy Institut Priborostroeniya, Omsk)
- 15:45 The Results of Brightness Temperature Measurements at Territory of Buryatia by Space Radiometer SMOS  
**P.N. Dagurov**, **A.V. Dmitriev**, **A.V. Bazarov**, **S.B. Radnaeva**  
 (Institute of Physical Materials Science SB RAS, Ulan-Ude)
- 16:00 Assessment of Modern Mobility (dynamics) of Geoblocks and Faults of Baikal Rift by Methods of Radar Interferometry  
**Ts.A. Tubanov**<sup>1</sup>, **G.I. Taf'kov**<sup>1</sup>, **T.N. Chimitdorzhiev**<sup>2</sup>  
 (<sup>1</sup>Geological Institute SB RAS, Ulan-Ude; <sup>2</sup>Institute of Physical Materials Science SB RAS, Ulan-Ude)

## SESSION II

Co-Chairs:

**V.B. Kashkin**

(Dr., prof., Siberian Federal University, Krasnoyarsk)

**Y.L. Lomukhin**

(Dr., prof., Head of the Laboratory, Institute of Physical Materials Science SB RAS, Ulan-Ude)

- 16:45 Changes of the Bound Water Dielectric Properties in the Soil at Increasing its Quantity  
**T.A. Belyaeva**, **P.P. Bobrov**, **O.V. Kondrat'eva**  
 (Omsk State Pedagogical University, Omsk)
- 17:00 Effect of Soil Organic Matter on the Dielectric Permittivity at the Frequencies 10 kHz – 8.5 GHz  
**P.P. Bobrov**, **O.V. Kondrat'eva**, **M.M. Mustakova**  
 (Omsk State Pedagogical University, Omsk)
- 17:15 The Applicability of Unfrozen Water Conception for Permittivity Modelling of Frozen Soils  
**V.L. Mironov**<sup>1,2</sup>, **A.Yu. Karavayskiy**<sup>1,2</sup>, **Yu.I. Lukin**<sup>1</sup>  
 (<sup>1</sup>Kirensky Institute of Physics SB RAS, Krasnoyarsk; <sup>2</sup>Siberian State Aerospace University, Krasnoyarsk)
- 17:30 The Dielectric Constant of Coniferous Wood in the Frequency Range 3 – 12 GHz  
**T.D. Kochetkova**, **V.I. Syslyayev**, **S.I. Volchkov**  
 (Tomsk State University, Tomsk)

- 17:45 Methods of Experimental Determination of Parameters of the Roughness of the Soil Cover  
**A.V. Dmitriev**, V.V. Dmitriev, I.S. Konyshchev, V.N. Tudos  
*(Omsk State Pedagogical University, Omsk)*
- 18:00 Determination of Soil Moisture Using Polarization Reflectogram of GLONASS and GPS Signals  
V.L. Mironov<sup>1</sup>, M.I. Mikhaylov<sup>2</sup>, **A.V. Sorokin**<sup>1</sup>, S.V. Fomin<sup>2</sup>,  
K.V. Muzalevskiy<sup>1</sup>  
<sup>(<sup>1</sup>Kirensky Institute of Physics SB RAS, Krasnoyarsk; <sup>2</sup>Siberian State Aerospace University, Krasnoyarsk)</sup>

## June 25, Tuesday

Cultural program in accordance with the Conference Plan

## June 26, Wednesday

### SESSION II

Co-Chairs:

**V.L. Mironov**

*(corresponding member of RAS, Head of the Laboratory, Kirensky Institute of Physics SB RAS, Krasnoyarsk)*

**P.N. Dagurov**

*(Dr., Leading Researcher, Institute of Physical Materials Science SB RAS, Ulan-Ude)*

- 11:00 Reflection and Transmission Coefficients of Layered Media and Possibility of Determination Complex Permittivity of One or Two Layers  
A.V. Repin, **A.S. Yaschenko**  
*(Omsk State Pedagogical University, Omsk)*
- 11:15 Investigation of Soda Lake Ice Cover by Radar Method  
G.S. Bordonskiy, **A.O. Orlov**, A.A. Gurulev, K.A. Schegrina  
*(Institute of Natural Resources, Ecology and Cryology SB RAS, Chita)*
- 11:30 Radiolocation Definite of Ice Cover Inhomogeneous of Freshwater Lakes  
**A.A. Gurulev**, S.D. Krylov, S.V. Tsyrenzhaylov  
*(Institute of Natural Resources, Ecology and Cryology SB RAS, Chita)*



- 11:45 Variations of Microwaves Reflection Coefficient Amplitude and Phase from the Moist-layered Soil  
**P.N. Dagurov**, A.V. Dmitriev, T.N. Chimitdorzhiev, A.K. Baltukhaev, A.V. Bazarov, Zh.B. Dymbrylov  
*(Institute of Physical Materials Science SB RAS, Ulan-Ude)*
- 12:00 L-band Microwaves Reflection from a Snow Cover  
**P.N. Dagurov**<sup>1</sup>, A.V. Dmitriev<sup>1</sup>, S.I. Dobrynin<sup>1</sup>, **G.I. Tat'kov**<sup>1</sup>, T.N. Chimitdorzhiev<sup>1</sup>, A.V. Bazarov<sup>1</sup>, A.K. Baltukhaev<sup>1</sup>  
*(<sup>1</sup>Institute of Physical Materials Science SB RAS, Ulan-Ude, <sup>2</sup>Geological Institute SB RAS, Ulan-Ude)*
- 12:15 Method of the Determine Attenuation Microwave by the Forest Canopy Using Signals GLONASS and GPS  
V.L. Mironov<sup>1,2</sup>, **M.I. Mikhailov**<sup>1</sup>, A.V. Sorokin<sup>1,2</sup>, K.V. Muzalevskiy<sup>1,2</sup>, S.V. Fomin<sup>1</sup>  
*(<sup>1</sup>Kirensky Institute of Physics SB RAS, Krasnoyarsk; <sup>2</sup>Siberian State Aerospace University, Krasnoyarsk)*
- 12:30 Wideband Radio Sounding of Vegetation Covers of the Terrestrial Surface  
**A.Yu. Vetluzhskiy**, V.P. Kalashnikov  
*(Institute of Physical Materials Science SB RAS, Ulan-Ude)*
- 12:45 Study of the Mechanisms of Radio Emission Transfer VHF-UHF Band in the Forest Vegetation  
A.Yu. Vetluzhskiy, **V.P. Kalashnikov**  
*(Institute of Physical Materials Science SB RAS, Ulan-Ude)*

## SESSION II

Co-Chairs:

**L.B. Neronskiy**

*(Dr., prof., Leading Researcher, JSC «Radio Engineering Corporation "Vega", Moscow)*

**A.I. Zakharov**

*(PhD, Head of the Laboratory, Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Fryazino)*

- 13:15 Test Range Equipment for Spaceborne SAR Calibration and Validation  
**T.A. Lepekhina**, V.I. Nikolaev, M.A. Semenov, I.V. Charykov, V.S. Chikachev  
 (State Unitary Enterprise "Scientific Production Centre "SPURT", Moscow)
- 13:30 Experience of the Ground Calibration Polygon Complex Creation for the space SAR Testing  
 L.M. Atroshenko<sup>1</sup>, N.N. Gorobets<sup>1</sup>, M.G. Krasnogorskiy<sup>2</sup>, **V.M. Malyukov**<sup>2</sup>  
 (<sup>1</sup>V.N. Karazin Kharkiv National University, Kharkov; <sup>2</sup>JSC "Military Industrial Corporation "NPO Mashinostroyeniya", Reutov)
- 13:45 Some Problems of Spaceborne SAR Principal Performance Verification in Flight Tests  
**T.A. Lepekhina**, V.I. Nikolaev  
 (State Unitary Enterprise "Scientific Production Centre "SPURT", Moscow)
- 14:00 The Results of Multifrequency SAR Observations Using 4-band Airborne Radar Complex "COMPACT"  
 S.L. Vnotchenko, **M.Yu. Dostovalov**, R.V. Ermakov, T.G. Musinyants, E.P. Sevalkina  
 (JSC "Research Institute of Precision Instruments", Moscow)
- 14:15 Syntesis of Earth Surface Radar Images Received in "Severyanin" Spaceborne Radar System  
 M.Yu. Dostovalov, A.I. Kovalenko, **V.M. Kostulyak**, V.V. Riman, S.G. Sudorgin  
 (JSC "Research Institute of Precision Instruments", Moscow)
- 14:30 Lake Baikal Ice Cover Texture Features Change During the Freezing Period 2010 by ALOS PALSAR Data  
**N.V. Rodionova**<sup>1</sup>, A.V. Filatov<sup>2</sup>, A.V. Evtyushkin<sup>2</sup>  
 (<sup>1</sup>PhD, Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Fryazino, <sup>2</sup>I. Kant Baltic Federal University, Kaliningrad)
- 14:45 Archiving of ERS-2/SAR in Russia  
**A.V. Evtyushkin**, A.V. Filatov, V.M. Bryskin  
 (JSC "Research Institute of Precision Instruments", Moscow)

**16:00**

**Round Table. Discussion**

**June 27, Thursday**

**SESSION I**

Co-Chairs:

**A.I. Zakharov**

*(PhD, Head of the Laboratory, Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Fryazino)*

**A.V. Evtyushkin**

*(PhD, associate prof., Head of the Laboratory, I. Kant Baltic Federal University, Kaliningrad)*

11:00 Using PSInSAR Technique on Computing Cluster for Geodynamic Monitoring Oil and Gas Fields

**A.V. Filatov**<sup>1</sup>, **V.M. Bryskin**<sup>1</sup>, **A.V. Evtyushkin**<sup>1</sup>, **Yu.V. Vasil'ev**<sup>2</sup>,  
**A.Yu. Belonosov**<sup>2</sup>

*(<sup>1</sup>I. Kant Baltic Federal University, Kaliningrad; <sup>2</sup>West Siberian Division of the Trofimuk Institute of Petroleum Geology and Geophysics SB RAS, Tyumen)*

11:15 Satellite SAR Monitoring of Ground and Constructions Displacements and Deformations. "Sovzond" Company Experience.

**Yu.I. Kantemirov**

*("SOVZOND" Company, Moscow)*

11:30 Satellite SAR Data Usage For Thematic Mapping and Change Detection Purposes

**Yu.I. Kantemirov**

*("SOVZOND" Company, Moscow)*

11:45 Application Radar Interferometry to Monitor the Landslide Processes in Mines the Example of "Urtuysky Coal Mine"

**V.D. Khan**

*(Irkutsk State Technical University, Irkutsk)*

12:00 SAR Monitoring of Terrestrial Surface Deformation in the Earthquake Zone Using GPS Data

**A.A. Feoktistov**<sup>1</sup>, **A.I. Zakharov**<sup>2</sup>, **P.V. Denisov**<sup>1</sup>, **M.A. Gusev**<sup>1</sup>

*(<sup>1</sup>JSC "Russian Space Systems", Moscow; <sup>2</sup>PhD, Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Fryazino)*

- 12:15 Active Deformations in the Zone of Influence of Faults of Mondy Basin by SAR Interferometry Data  
**M.A. Lebedeva**<sup>1</sup>, V.A. San'kov<sup>1</sup>, A.I. Zakharov<sup>2</sup>, L.N. Zakharova<sup>2</sup>  
(<sup>1</sup>Institute of the Earth's Crust SB RAS, Irkutsk, <sup>2</sup>Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Fryazino)
- 12:30 Study of Microdeformation and Landslides Northern Territories West Siberia from Interferometric Data  
**T.N. Chimitdorzhiev**<sup>1</sup>, M.E. Bykob<sup>1</sup>, M.O. Leybman<sup>2</sup>, P.N. Dagurov<sup>1</sup>, I.I. Kirbizhekova<sup>1</sup>, Yu.A. Dvorniko<sup>2</sup>, N.M. Berdnikov<sup>2</sup>  
(<sup>1</sup>Institute of Physical Materials Science SB RAS, Ulan-Ude, <sup>2</sup>Institute Earth Cryosphere SB RAS, Tyumen)

## SESSION II

Co-Chairs:

**P.P. Bobrov**

(Dr., prof., Omsk State Pedagogical University, Omsk)

**V.V. Khakhinov**

(Ph.D., associate prof., Head of the Laboratory, Institute of Solar-Terrestrial Physics SB RAS, Irkutsk)

- 13:15 Determination of the Forest Environment Density by Using GPR "EYE-2"  
**V.B. Khaptanov**, Yu.B. Bashkuev, M.G. Dembelov  
(Institute of Physical Materials Science SB RAS, Ulan-Ude)
- 13:30 Some Results on the Detection of Hidden Objects by the Ultra-short Pulse Radiolocation  
**B.Ch. Dorzhiev**, O.N. Ochirov, B.V. Sodnomov  
(Institute of Physical Materials Science SB RAS, Ulan-Ude)
- 13:45 Measurement Backscatter of the Horn Antenna in Diffraction Isolation  
**Yu.L. Lomukhin**, E.B. Atutov, B.B. Basanov, V.P. Butukhanov  
(Institute of Physical Materials Science SB RAS, Ulan-Ude)
- 14:00 The Brightness Temperature and the Backscattering Coefficient  
**Yu.L. Lomukhin**  
(Institute of Physical Materials Science SB RAS, Ulan-Ude)

- 14:15 Satructure of the Kotokel Lake Water and Bottom Sediments According GPR Sounding  
**V.B. Khaptanov**, Yu.B. Bashkuev, M.G. Dembelov  
*(Institute of Physical Materials Science SB RAS, Ulan-Ude)*
- 14:30 Electrometric Analysis Water Samples of the Selenga River, its Tributaries and Lake Baikal  
**Yu.B. Bashkuev**, V.B. Khaptanov, M.G. Dembelov,  
D.G. Buyanova, L.Kh. Angarkhaeva  
*(Institute of Physical Materials Science SB RAS, Ulan-Ude)*
- 14:45 Results of Radioimpedance and Georadar Soundings in the Middle Part Coastal Zone of Lake Baykal  
**V.B. Khaptanov**, Yu.B. Bashkuev, D.G. Buyanova  
*(Institute of Physical Materials Science SB RAS, Ulan-Ude)*

**16:00 Round Table. Discussion**

**June 28, Friday**

**SESSION II**

Co-Chairs:

**A.A. Romanov**

*(Dr., prof., Deputy Director, JSC "Russian Space Systems", Moscow)*

**Yu.B. Bashkuev**

*(Dr, prof., Head of the Laboratory, Institute of Physical Materials Science SB RAS, Ulan-Ude)*

- 11:00 Detection of Ionosphere and Troposphere Response to Seismic Activity Using Satellite Data  
A.S. Grigor'ev, **V.B. Kashkin**  
*(Siberian Federal University, Krasnoyarsk)*
- 11:15 Troposphere Zenit Delay on GPS DATA OF ULAZ, IRKT and BADG Stations  
Y.B. Bashkuev<sup>1</sup>, **M.G. Dembelov**<sup>1</sup>, A.V. Likhnev<sup>2</sup>, V.A. San'kov<sup>2</sup>  
*(<sup>1</sup>Institute of Physical Materials Science SB RAS, Ulan-Ude; <sup>2</sup>Institute of the Earth's Crust SB RAS, Irkutsk)*

- 11:30 The Processing and Interpretation of Vertical and Oblique Sounding Ionograms for Ionosphere Diagnostics on the Base of Chirp Ionosonde  
**S.N. Ponomarchuk**, V.P. Grozov, G.V. Kotovich, S.Ya. Makhaylov  
*(Institute of Solar-Terrestrial Physics SB RAS, Irkutsk)*
- 11:45 Interferential Measurements of Ionospheric Disturbances on the Irkutsk Incoherent Scattering Radar  
**V.P. Lebedev**, A.V. Medvedev, A.V. Tolstikov  
*(Institute of Solar-Terrestrial Physics SB RAS, Irkutsk)*
- 12:00 2-dimensional Ionosphere Radiotomography: the Existing and Perspective Technologies  
**A.A. Romanov**, S.V. Trusov, A.A. Romanov, O.I. Baraboshkin, S.A. Bobrovskiy  
*(JSC "Russian Space Systems", Moscow)*
- 12:15 Spice-time Variations of Intensity of VLF-pulse Stream in the Baikal Rift System  
**I.B. Naguslaeva**, Yu.B. Bashkuev, V.B. Khaptanov, M.G. Dembelov  
*(Institute of Physical Materials Science SB RAS, Ulan-Ude)*  
*(JSC "Russian Space Systems", Moscow)*
- 12:15 Spice-time Variations of Intensity of VLF-pulse Stream in the Baikal Rift System  
**I.B. Naguslaeva**, Yu.B. Bashkuev, V.B. Khaptanov, M.G. Dembelov  
*(Institute of Physical Materials Science SB RAS, Ulan-Ude)*
- 12:30 Geoelectric Cross-section of the Sedimentary Rocks of the Selenga River Delta  
**Yu.B. Bashkuev**, V.B. Khaptanov, M.G. Dembelov, B.R. Advokatov, D.G. Buyanova  
*(Institute of Physical Materials Science SB RAS, Ulan-Ude)*
- 12:45 Electromagnetic Diagnostics of Vitim Plateau and Bureya Massif Rocks in ELF-VLF Radio Spectrum Bands  
**D.G. Buyanova**, Yu.B. Bashkuev, V.B. Khaptanov, B.R. Advokatov  
*(Institute of Physical Materials Science SB RAS, Ulan-Ude)*

## SESSION I

Co-Chairs:

**T.N. Chimitdorzhiev**

*(Dr., Deputy Director, Institute of Physical Materials Science SB RAS, Ulan-Ude)*

**K.S. Emelyanov**

*(Chief of Department, JSC "Russian Space Systems", Moscow)*

13:15 Combination of Methods Satellite Radar and Spectral Analysis for Buryatia Forest Research

**T.N. Chimitdorzhiev**<sup>1</sup>, **A.M. Garmaev**<sup>1</sup>, **I.I. Kirbizhekova**<sup>1</sup>,  
**K.S. Emelyanov**<sup>2</sup>, **M.A. Gusev**<sup>2</sup>, **A.V. Bazarov**<sup>1</sup>

*(<sup>1</sup>Institute of Physical Materials Science SB RAS, Ulan-Ude; <sup>2</sup>JSC "Russian Space Systems", Moscow)*

13:30 Mapping and Monitoring of Forest Environments Based on of Polarimetric Radar Data on Baikal Region

**I.I. Kirbizhekova**, **E.V. Batueva**

*(Institute of Physical Materials Science SB RAS, Ulan-Ude)*

13:45 Research of Lake Baikal Ice Cover Dynamics from Radar Data and GPS-Navigation Methods

**T.N. Chimitdorzhiev**<sup>1</sup>, **G.I. Tat'kov**<sup>2</sup>, **Ts.A. Tubanov**<sup>2</sup>,  
**P.N. Dagurov**<sup>1</sup>, **A.I. Zakharov**<sup>2</sup>, **I.I. Kirbizhekova**<sup>1</sup>, **A.V. Dmitriev**<sup>1</sup>,  
**M.E. Bykov**<sup>1</sup>

*(<sup>1</sup>Institute of Physical Materials Science SB RAS, Ulan-Ude; <sup>2</sup>Geological Institute SB RAS, Ulan-Ude; <sup>3</sup>PhD, Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Fryazino)*

14:00 Monitoring of Agricultural Resources on Multitemporal ERS-2/SAR

**A.V. Evtyushkin**<sup>1</sup>, **V.M. Bryksin**<sup>1</sup>, **N.V. Rychkova**<sup>2</sup>

*(<sup>1</sup>I. Kant Baltic Federal University, Kaliningrad; <sup>2</sup>Barnaul Institute of Law, Barnaul)*

14:15 Earth Observation Basic Products on SAR-Data

**M.A. Gusev**<sup>1</sup>, **P.V. Denisov**<sup>1</sup>, **I.I. Kirbizhekova**<sup>2</sup>, **A.V. Dmitriev**<sup>2</sup>

*(<sup>1</sup>JSC "Russian Space Systems", Moscow; <sup>2</sup>Institute of Physical Materials Science SB RAS, Ulan-Ude)*

14:30 Remote Sensing of Forest Cover by High-frequency Pulse Lasers and Digital Ultra-high Resolution Aerial- and Space Cameras: an Experience of Application in Siberia

**A.I. Danilin**<sup>1</sup>, **I.M. Danilin**<sup>1,2</sup>, **D.A. Svishev**<sup>3</sup>

*(<sup>1</sup>Forest Institute SB RAS, Krasnoyarsk; <sup>2</sup>Siberian State Aerospace University, Krasnoyarsk; <sup>3</sup>"Vostsiblesproekt", FSUE "Roslesinforg", Krasnoyarsk)*

June 29, Saturday

SESSION III

Co-Chairs:

**S.A. Nikitov**

*(corresponding member of RAS, Deputy Director, Kotel'nikov Institute of Radio Engineering and Electronics RAS, Moscow)*

**A.P. Semenov**

*(Dr., prof., Director, Institute of Physical Materials Science SB RAS, Ulan-Ude)*

- 11:00 Differential and Integral Transformations of Test Signals  
*V.V. Boronoev, **B.Z. Garmaev**, V.D. Ompokov*  
*(Institute of Physical Materials Science SB RAS, Ulan-Ude)*
- 11:15 Comparative Estimation of Differential and Integral Pulse Transformations  
*V.V. Boronoev, **B.Z. Garmaev**, V.D. Ompokov*  
*(Institute of Physical Materials Science SB RAS, Ulan-Ude)*
- 11:30 Empirical Mode Decomposition of Pulse Signals  
*V.V. Boronoev, **V.D. Ompokov***  
*(Institute of Physical Materials Science SB RAS, Ulan-Ude)*
- 11:45 The Hilbert Spectral Analysis in the Study of Frequency and Time Characteristics of Pulsograms  
*V.V. Boronoev, **V.D. Ompokov***  
*(Institute of Physical Materials Science SB RAS, Ulan-Ude)*
- 12:00 Some Results of Measurements Electromagnetic Field Radio Navigation System "ALPHA" by Ground and Satellite Data  
**D.B. Ayurov**<sup>1</sup>, **G.B. Nominov**<sup>1</sup>, *Yu.B. Bashkuev*<sup>1</sup>,  
*V.R. Advokatov*<sup>1</sup>, *V.I. Kozlov*<sup>2</sup>  
*(<sup>1</sup>Institute of Physical Materials Science SB RAS, Ulan-Ude; <sup>2</sup>The Yu.G. Shafer Institute of Cosmophysical Research and Aeronomy, Yakutsk)*



- 12:15 Peculiarities of Registration Atmospheric Induction Detected by an Electrometric Converter and Digital Storage Oscilloscope on the Lake Baikal  
**S.M. Kutsenko**<sup>1</sup>, **Yu.B. Bashkuev**<sup>2</sup>  
(<sup>1</sup>Irkutsk State Transport University, Irkutsk; <sup>2</sup>Institute of Physical Materials Science SB RAS, Ulan-Ude)
- 12:30 The Impedance Magnetic Media – Some Results of Electrodynamic Modeling  
**L.Kh. Angarkhaeva**, **Yu.B. Bashkuev**, **V.K. Balkhanov**  
(Institute of Physical Materials Science SB RAS, Ulan-Ude)
- 13:00 Direct and Inverse Problems of Geophysic Electrodynamics for Gradient-layered Media  
**L.Kh. Angarkhaeva**, **Yu.B. Bashkuev**, **V.K. Balkhanov**,  
**V.B. Khaptanov**, **M.G. Dembelov**  
(Institute of Physical Materials Science SB RAS, Ulan-Ude)
- 13:15 Predictive Map of the Geoelectric Sections of North and South America  
**Yu.B. Bashkuev**, **V.R. Advokatov**  
(Institute of Physical Materials Science SB RAS, Ulan-Ude)
- 13:30 A Field of the Vertical Electrical Dipole under Reception on a Board of Aircraft  
**M.G. Dembelov**, **Yu.B. Bashkuev**  
(Institute of Physical Materials Science SB RAS, Ulan-Ude)
- 13:45 A Model of the Radio Wave Propagation Taking into Consideration of Electrical Inhomogeneities Aside a Path  
**M.G. Dembelov**, **Yu.B. Bashkuev**, **V.B. Khaptanov**  
(Institute of Physical Materials Science SB RAS, Ulan-Ude)
- 14:00 Salt Lakes of the Central Asia as Analogues of the Electrodynamic Structure “Ice-Sea”  
**Yu.B. Bashkuev**, **V.B. Khaptanov**, **M.G. Dembelov**  
(Institute of Physical Materials Science SB RAS, Ulan-Ude)