

Kotelnikov Institute of Radio Engineering and Electronics of the Russian Academy of Sciences

7. About Cooperation with Bulgarian and Polish Scientists and Specialists in the Field of Fundamental Space Research

7.1. Results of the joint Russian-Bulgarian project "Development of New Technologies of Remote Sensing of the Earth's Surface from Space " (code "Aerokosm-10") for 2011-2015

1. Results of the analysis of experimental microwave measurements of Earth (according to the Russian and foreign satellite observations).
2. Data bank of microwave measurements of Earth (by results of the Russian and foreign satellite observations).
3. Recommendations about further development of methods and means for land and remote sensing complex (optical, IR and microwave) of the Earth's surface space monitoring.

Joint publications

1. Denitsa Borisova, Hristo Nikolov, Doyno Petkov, Victor Savorskiy. Effects of anthropogenic activities on lakes and dams. 40th COSPAR Scientific Assembly 2014, Moscow 2014. Section 3.1

Publications of the Russian side:

1. Smirnov, Mikhail; Khaldin, Alexander. L-Band Microwave Experiment on Russian Investigational Satellite, first Results and Comparison with SMOS Data. // ESA Living Planet Symposium . Edinburg, 9-13 September 2013.

2. Smirnov M.T., Ermakov D.M. Methodological issues of data processing from passive microwave radiometer at L-band on the MKA FKI No. 1 // Modern problems of the Earth remote sensing from space. 2014. V. 11. № 2. PP. 92-102.
3. Smirnov M.T. The analysis of metric characteristics and creation of the empirical model of hardware distortions of the satellite microwave device of L-range "Zond-PP" for calibration and data processing. // Theses of the 13th All-Russian open conference "Modern problems of the Earth remote sensing from space M: IKI RAS. 16 – 20 November 2015.
4. Savorskiy V.P., Kibardina I.N., Turygin S Yu., Smirnov M.T. Prospects of restoration of temperature and moist profiles of the atmosphere with the resolution of 1 km in the lower troposphere according to the satellite microwave measurements // The conference "Radar-location and Radio Communication", M.: IRE Russian Academy of Sciences, on November 25-27, 2015.

Publications of the Bulgarian side:

Borisova D., Nikolov H., Petkov D., Lubenov T. Estimation of water volume in abandoned open mines by remotely sensed data // Theses of the 10th All-Russian open conference "Modern problems of the Earth remote sensing from space M: IKI RAS. 12 – 16 November 2012 r.

7.2. Results of the joint Russian-Bulgarian project "Development of Information Technologies and Infrastructure for Space Remote Sensing of Earth" (the code "Infrastructure") for 2011-2015

1. Bank of target information products.
2. Instruments of the remote access to target information products.
3. Algorithms of support of procedures of calibration and validation.
4. Basic software of the IS model of data observations for natural disasters zones.

Joint publications

Denitsa Borisova, Hristo Nikolov, Doyno Petkov, Victor Savorskiy. Effects of anthropogenic activities on lakes and dams. 40th COSPAR Scientific Assembly 2014, Moscow 2014. Section 3.1

Publications of the Russian side:

1. Savorskiy V., Y. Tishchenko. Enhancement of spatial database archive services for disaster response Applied Geomatics. 2012, Online first
2. Savorskiy V. P., E. A. Lupyan, V. I. Kaevitser, M. T. Smirnov, D. M. Ermakov, I. V. Balashov, M. A. Bourtsev, V. Yu. Efremov, A. A. Proshin, V. A. Tolpin, I. A. Uvarov, E. V. Flitman. Distributed Infrastructure Enabling Effective Integration of Earth Observation Information Resources for Collective Solution of Archiving, Searching, Processing and EO Data Analyzing Tasks. ISPRS Archives – Volume XXXIX-B4, 2012, pp 237-242
3. V. Savorskiy, A. Zakharov, O. Panova, D. Ermakov, L. Zakharova, V. Kaevitser, S. Maklakov, S. Chumachenko. Complex Analysis of Optic and Radar Data Observed for Forest Landscapes. // ESA Living Planet Symposium . Edinburg, 9-13 September 2013.
4. Victor Savorskiy, Evgeniy Lupyan, Ivan Balashov, Mikhail Burtsev, Andrey Proshin, Vladimir Tolpin, Dmitriy Ermakov, Andrey Chernushich, Olga

- Panova, Oleg Kuznetsov, and Vladislav Vasilyev. Basic technologies of web services framework for research, discovery, and processing the disparate massive Earth observation data from heterogeneous sources. The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XL-4, 2014, pp.223-228. ISPRS Technical Commission IV Symposium, 14 – 16 May 2014, Suzhou, China.
5. Savorskiy V. An Architecture Design of Information System for Prospective Satellite Radio Physical Missions // International Conference on Information Processing and Control Engineering (ICIPCE-2015), Bauman Moscow State Technical University, Moscow, Russia, 15-17 April 2015, p.11.
 6. Savorskiy V., Lupyan E., Balashov I., Ermakov D., Kuznetsov O., Panova O., Tolpin V., Chernushich A., Uvarov I. Basic Software Tools To Remotely Manage Massive Hyperspectral Data Arrays In Distributed Information Infrastructure // 36th International Symposium on Remote Sensing of Environment 11-15 May 2015, Berlin, Germany - <http://meetingorganizer.copernicus.org/ISRSE36/ISRSE36-484.pdf>
 7. Savorskiy V.P., Kibardina I.N., Turygin S Yu., Smirnov M.T. Prospects of restoration of temperature and moist profiles of the atmosphere with the resolution of 1 km in the lower troposphere according to the satellite microwave measurements. // The conference “Radar-location and Radio Communication”, M.: IRE Russian Academy of Sciences, on November 25-27, 2015.

Publications of the Bulgarian side:

Nikolov H., Borisova D., Petkov D., Lubenov T. Assessment of damage areas near open pit mines by means of time series data analysis. // Theses of the 10th All-Russian open conference “Modern problems of the Earth remote sensing from space M: IKI RAS. 12 – 16 November 2012 r.