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**Special release to XX<sup>th</sup> ISPRS Congress**

**The abstract collection.**  
**Geodesy, cartography and navigation**

**Publishing house «Prospect»**  
**Moscow, 2004**

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The collection is prepared to XX<sup>th</sup> ISPRS Congress. In the collection it is included by interview with Yuri S. Tjuflin, the President of the Russian Society for Photogrammetry and Remote Sensing (RSPRS), comments by J.C. Trinder, the President of the International Society for Photogrammetry and Remote Sensing (ISPRS), on his visit to Moscow. It contains summaries of clauses published in magazine «Geoprofi» in № 1–6, 2003. The information on On-line Magazine in Geodesy, Cartography and Navigation «GEOPROFI.RU» is resulted.

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## **THE RUSSIAN MAGAZINE «GEOPROFI»**

The «GEOPROFI.RU. Special release to XX<sup>th</sup> ISPRS Congress» includes an interview with Yuri S. Tjuflin, the President of the Russian Society for Photogrammetry and Remote Sensing (RSPRS), comments by J.C. Trinder, the ISPRS President, on his visit to Moscow, information about our authors as well as the abstracts of the articles published in the Geoprofi magazine in 2003.

The Geoprofi magazine was registered on April 3, 2003. Specialists from industrial institutions, designers and suppliers of equipment, software and technologies as well as the professors and post-graduate students of universities and other educational institutions have showed their interest in the materials published.

The Geoprofi magazine's objective is both to show the role and place of geodesy and cartography in various industrial spheres and to present various engineering solutions. The magazine introduces information classified to the following topics:

- technologies used in geodesy, cartography and photogrammetry;
- standards and legal regulations for geodetic and cartographic works in the construction industry and engineering surveys, urban planning and land survey, mineral exploration and mining, and other works;
- new instruments and software for geodetic, cartographic and photogrammetric works;
- Internet resources;
- education in geodesy, cartography, Earth remote sensing, land use and urban planning and navigation;
- events, exhibitions, conferences and workshops.

In 2003 in magazine 77 clauses 97 of authors from 54 various organizations have been published.

Our site [www.geoprofi.ru](http://www.geoprofi.ru) presents the contents and some materials published in the recent issues as well as the English version of these articles' abstracts. Any article is available in English on request.

Six issues of the Geoprofi magazine and one CD-ROM with an electronic version are published annually.

The Editorial Board and the Rospechat Agency provide for the subscription to the magazine, CD-ROM electronic version and the Web resources.

### **Editorial Board coordinates**

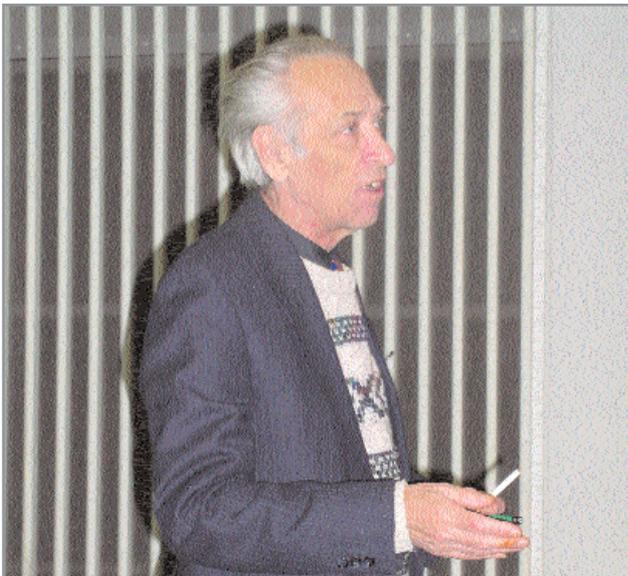
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# RUSSIAN SOCIETY OF CONTRIBUTION TO DEVELOPMENT OF PHOTOGRAMMETRY AND REMOTE SENSING (RSPRS)



Yuri S. Tjuflin

Yuri S. Tjuflin graduated from the Moscow Institute for Engineers of Geodesy, Aerial Photosurveying and Cartography (MIIGAiK), the department of aerophotogrammetry in 1958. From 1958 to 1995 he worked at the Moscow Aerogeodetic Enterprise (MAGP), in the Moscow Institute for Hydrophysics of the USSR Academy of Sciences, in MIIGAiK and the Central Research Institute for Geodesy, Aerial Surveying and Cartography (TsNIIGAiK). Since 1995 Yu.S. Tjuflin occupies a position of the chief researcher at the State Research Institute of Aviation Systems (GosNIIAS). He is the President of the Russian Society of Contribution to Development of Photogrammetry and Remote Sensing (RSPRS).

Yuri S. Tjuflin is a professor, Sci.D (in engineering) and the USSR State Prize winner. He was awarded with the Brock Gold Medal in 2000.

## ▼ What is your viewing of the prospects for photogrammetry and remote sensing development?

Photogrammetry as a science has been known for already one hundred and fifty years and its application is permanently extending. Initially photogrammetric techniques were used mainly in aerial topography for topomaps and topoplans compilation based on aero- and ground surveys. There were three main tasks being solved by photogrammetry: measurement of coordinates in images, identification and map or plan compilation. That was a fairly laborious process requiring for particular skills and patience, however much more efficient compared with the map compilation based on ground measurements. Thus, a need has arisen to automate the majority of the photogrammetric processes. Introduction of computer technologies resolved efficiently the problem of measurement automation and partially the problem of identification. At present photogrammetry and remote sensing are being introduced into geoinformation technologies. The XXth century marked out GIS integration with the photogrammetric technologies as the main promising direction for research and production, and as a result a creation of a videoinformation spatial system of our world in its dynamics in order to provide all the data necessary for a user. Digital image data is considered the basic component for this system. However joined efforts of experts in various fields of research and production are required to complete this job.

## ▼ Please, tell about the history of the RSPRS foundation.

In 1998 for the first time in Russia there was organized a public non-governmental photogrammetric institution. This Society of Contribution to Development of Phogrammetry & Remote Sensing (RSPRS) joined specialists from governmen-

tal, commercial and public organizations. A group of researchers and experts from Moscow initiated this process. Previously mainly graduates of geodetic institutes dealt with the photogrammetry. At present photogrammetrists work together with the graduates specializing in physics and mathematics. Thus the RSPRS establishment was urgent to join specialists from various applied scientific fields.

General meeting is the Society's highest executive body entitled to consider any problem. The Presidium is a permanently governing body. In addition to the President, S.A. Kadnichansky, the vice-president, A.V. Melnikov, an executive director and S.Yu. Zheltov, V.K. Lvov and A.G. Chebunichev are the members of this Presidium.

Any Russian or foreign citizen older than eighteen who agrees with the Society's objectives, recognizes the statute, pays membership fee and participates in the Society's activities is able to join the Society.

The RSPRS main objective consists in promotion of new technologies and developments and their introduction to industry, in the development of business activity, in strengthening business relations in-between governmental, commercial and public organizations in Russia and abroad as well as in widening application fields for photogrammetry and remote sensing. The Society makes an effort to avoid dependence on the corporate interests of certain authorities, institutions and groups. However members of our Society may stand upon the interests of their organizations.

At present the Society joins not only photogrammetrists but also specialists dealing with computational mathematics, computer graphics, computer vision, virtual reality and others.

#### ▼ How and when did Russia (the USSR) join the ISPRS activities?

Our country is a veteran of ISPRS. The first USSR delegation participated in the XIth Congress of the International Society for Photogrammetry (ISP) which took place in 1968 in Lausanne, Switzerland. Earlier there was organized the National Committee of Photogrammetrists (NKF) which joined representatives of our country's departments related to photogrammetry and aerial photosurveying. L.A. Kashin was the first NKF Chairman. He also headed the delegation of our country to the ISPRS Congress. L.A. Kashin contributed a lot to create this National Committee, to establish fruitful cooperation of our scientists with the scientists from other countries as well as to develop photogrammetry as a whole in our country. Further on the USSR and then Russia participated in all the Society's Congresses and several Symposia. The ISPRS leaders together with the outstanding foreign scientists traditionally visited our country. Our scientists were very active working at the ISPRS executive bodies, especially in the seventies and eighties of the XXth century. In 1976 I.T. Antipov was elected the President of the ISP Technical Commission III «Data Mathematical Processing». He occupied this position till 1980. In 1978 «Photogrammetric Accuracy Improvement» Symposium was held in Moscow in the Polytechnic Museum. This Symposium was of great success. L.A. Kashin was appointed the Chairman of the NKF Organizing Committee. Almost all the key experts from our country and well-known foreign scientists took part in the Symposium. Many friendly relations were established and they are alive today. The Proceedings were published in a special book in two volumes. At this Symposium Dr. Frederick J. Doyle offered to change the name of the Society and in 1980 at the XIVth Congress it was renamed to the Society for Photogrammetry and Remote Sensing (ISPRS). At the same Congress I.T. Antipov was elected the second vice-president of this Society. He occupied this position from 1980 till 1984. Within this period I.T. Antipov together with the USSR NKF reconsidered the Society's statute and prepared a multilingual dictionary for photogrammetry and remote sensing. Later on in 1992 an internal report of the ISPRS International Working Group «Acquisition and Usage of the Spaceborne Photos» was prepared and published. Since 1987 and up to 2000 A.A. Drazhnyuk headed the NKF. Due to their considerable contribution to the development of photogrammetry and remote sensing in our country L.A. Kashin and A.A. Drazhnyuk became the RSPRS Honorary members. At present our National Committee is named the Russian Committee for the Participation in the ISPRS activities. V.F. Khabarov heads this Committee. It would be very advantageous for the photogrammetry and remote sensing development in our country to occupy more key positions at the ISPRS executive bodies.

#### ▼ How does RSPRS participate in the ISPRS work?

Our Society became an associate ISPRS member not long ago - in July, 2000. We got a corresponding Certificate of recognition. RSPRS together with National Committee of Photogrammetrists (NKF) represented Russia at the XIXth ISPRS Congress in Copenhagen in 2000. It should be noted that several RSPRS members were included in the Russian Committee on participation in the activities of the International Society for Photogrammetry and Remote Sensing due to the recommendation of their institutions. Our



«Photogrammetric Accuracy Improvement»  
Symposium, Moscow, USSR, 1978

Society wishes to intense involvement of its members in the work of the ISPRS technical commissions and working groups.

#### ▼ Tell about the main fields of the RSPRS work in Russia.

Since 2000 we organize annual scientific and technological conferences on the contemporary status of photogrammetry and remote sensing. Both students and post-graduate students as well as prominent scientists make presentations at these conferences.

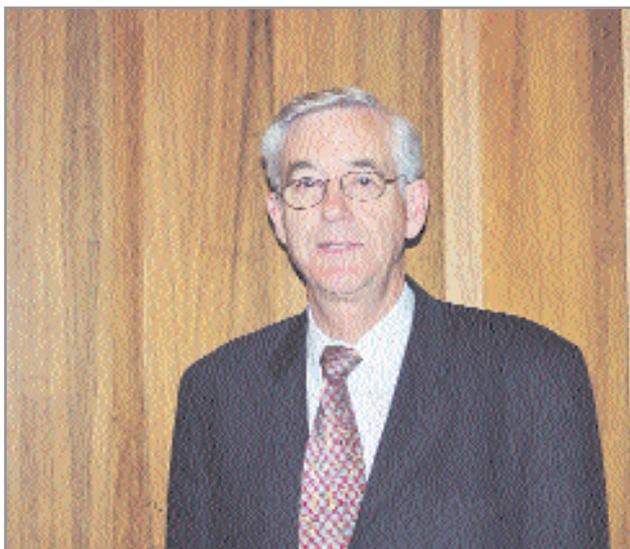
The RSPRS members participate in similar Russian and international conferences. We also invite outstanding scientists from other countries and publish abstracts of our conferences' reports. Our Society has a Web site (<http://rsprs.euro.ru>).

#### ▼ What do you want to wish the participants of the ISPRS XX<sup>th</sup> Congress?

Traditionally the ISPRS congresses sum up the results and consider the prospective works. Each Commission prepares reports on the fulfilled projects and specifies the main trends of activity for the future. Joint position worked out during these meetings as well as the recommendations done are of strong support for the further research in all the countries, including Russia.

The members of our Society hope that the next XXth ISPRS Congress in Turkey will become a new milestone in the development of photogrammetry and remote sensing. There will be many presentations by young scientists and the most outstanding works will get the ISPRS awards. On behalf of our Society I wish the participants of the Congress to work fruitfully during the sessions as well as to return home enriched with new knowledge.

# VISIT OF JHON C. TRINDER, THE ISPRS PRESIDENT, TO MOSCOW



**Jhon C. Trinder**

Professor J.C. Trinder, the ISPRS President, visited Moscow from May 22 to 27, 2004. He was invited by the Russian Society of Contribution to Development of Photogrammetry and Remote Sensing (RSPRS). The program of his visit was fairly rich and included the involvement in the jubilee events dedicated to the 225<sup>th</sup> anniversary of the land-use, geodetic and cartographic education in Russia. He also visited the Yuri Gagarin Cosmonauts Training Center (TsPK), several Russian governmental and commercial organizations dealing with photogrammetry and remote sensing development and application. He also got acquainted with the most memorable places in Moscow and its surroundings



**At the Moscow Kremlin**

(Zvenigorod), the Kremlin museums, the State Tretyakov Gallery and the Nikulin Moscow Circus.

Jubilee celebrations started with an extended meeting of the University's Academic Council in the Moscow State University for Geodesy and Cartography (MIIGAiK) on May 24, 2004. Victor P. Savinykh, the MIIGAiK rector, opened the meeting with a report on the history of the geodetic and cartographic education. By tradition foreign geodesists, cartographers and photogrammetrists were awarded with a title of an honorary professor of MIIGAiK. Among them there was Gotfried Konechny, a professor of the University of Hannover, Germany, and the ISPRS honorary member.

The majority of the Russian and foreign guests made greeting speeches and presentations to welcome professors, teachers, students and graduates of the University. Professor J.C. Trinder, the ISPRS President, greeted the audience on behalf of the International Society for Photogrammetry and Remote Sensing (ISPRS). In particu-



**Honourable professors of MIIGAiK**

lar addressing the members of the University's Academic Council, scientists and specialists of Russia as well as foreign guests J.C. Trinder highlighted the following aspects:

*«In the international sphere of photogrammetry and remote sensing, we are living in exciting times. Developments are resulting in improvements in the range and quality of images from ground, air and space, and hence the information that can be extracted from images. We are experiencing interesting debates on the benefits of film versus digital images, the future of film in photogrammetry, high resolution satellite images, the applications of terrain laser scanning and its fusion with information extracted from images. Practical applications are adapting to the new technologies, and hence new products are available.*

*Automation is at the heart of many of the activities in photogrammetry and remote sensing. Automation in photogrammetry has progressed rapidly over the past 10 years,*



**At session of an academic council MIIGAiK**

especially with the availability of digital images and workstations. However, while the computational aspects of photogrammetry have proved reasonably easy to automate, the extraction of thematic information, that is, understanding image content, is still in its infancy. It is important to develop techniques that will enable the extraction of reliable vector information automatically. Some researchers are predicting imaging and processing on board an aircraft, so that the finished product will be available in near real-time. These are the directions in which full automation are heading. New skills will therefore be required as these technologies are developed.

One important land use aspect that can be addressed by remote sensing technologies is Sustainable development, which has been proposed as the essential paradigm for preserving the environment. What type of development is sustainable and how can remote sensing play a role in ensuring that development is sustainable? This issue is only just being addressed by the remote sensing community. It is a complex issue, not only involving the physical aspects of the environment, but also socio-economic issues of those people living on the planet. The question is, how can it be ensured that people living on this planet pursue developments that are sustainable, while ensuring that they have shelter, food and have an adequate quality of life? It is important to relate the physical and socio-economic issues. As the scientists working in the International Human Development Program (IHDP) comment, it is necessary to «socialize the pixels». That is, to relate the physical characteristics of the environment that are measurable by remote sensing, to the socio-economic aspects of people who live on the pixels and are measured by a completely different set of parameters.

Sustainability cannot be measured only in terms of the physical characteristics of the terrain. We also need to know why the people behave in a certain manner. Studies are now being undertaken to combine these two aspects. Sustainable development is an inter-disciplinary matter that requires cooperative research from many scientists, remote sensing

being one of them.

The importance of these areas of activity in assessing the sustainability of the environment have been clearly stated in the declaration of the WSSD held last year in Johannesburg South Africa. I will give you one example.

Part of paragraph 119 recommends as follows:

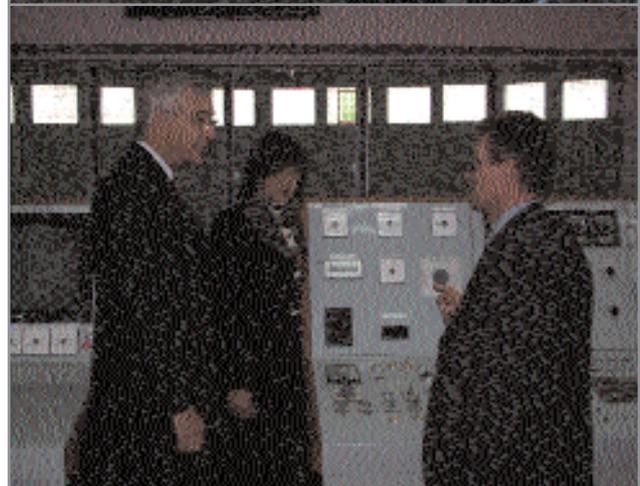
Promote the development and wider use of earth observation technologies, including satellite remote sensing, global mapping and geographic information systems, to collect quality data on environmental impacts, land use and land-use changes to:

(a) Strengthen cooperation and coordination among global observing systems and research programmes for integrated global observations, taking into account the need for building capacity and sharing of data from ground-based observations, satellite remote sensing and other sources among all countries;

(b) Develop information systems that make the sharing of valuable data possible, including the active exchange of Earth observation data;

(c) Encourage initiatives and partnerships for global mapping.

The technologies available to us are rapidly developing. High resolution satellites, for example as well as the newly



**Yuri Gagarin Cosmonauts Training Center**



**V.K. Lvov, V.P. Savinykh, J.C. Trinder,  
S.N. Volkov, A.V. Melnikov  
(Ceremonial meeting of the State University of Land  
Use Planning)**

*developed digital aerial cameras, will provide new high resolution images for analysis of urban areas. Such images are well suited to urban remote sensing. The fusion of this data with other forms of data should enable us to extract even more detailed information from the images. I therefore believe that we are in an exciting period for the development of methods for environments by remote sensing.*

*Unfortunately there are many developments that have occurred in Russia that have been kept from remainder of the world. I do hope that in future more of these developments will be revealed to us. In this regard, as President of ISPRS, I would like to encourage members of MIIGAiK and generally in Russia to participate in ISPRS activities. The immediate way to do this would be to consider attending the ISPRS Congress which will take place in Istanbul Turkey in July. I welcome you all at this Congress. Then there are many other events organized by ISPRS each year that people in Russia could attend. Also, there are other events that people could be involved in ISPRS, such as taking control of ISPRS WGs or Technical Commissions. There are still opportunities available for the coming 4 years that Russia could be involved in.*



**J.C. Trinder, V.K. Lvov, S.Yu. Zheltov  
(VISKhAGI)**

*I believe that it is most important to our field that individuals in ISPRS are able to see more of what is happening in Russia. We therefore look forward to the greater participation of Russian scientists in ISPRS activities.»*

On the same day the President visited the MIIGAiK department of photogrammetry and acquainted with the educational and scientific labs.

On May 25, 2004 J.C. Trinder together with V.K. Lvov, a member of the RSPRS Presidium, visited the Gagarin Training Center. They were taken to the scientific and experimental facilities and simulators used to train the future astronauts in order to fulfill various experiments, including those for the Earth remote sensing from space. At this period the US astronaut was training — his visit to the International Space Station is scheduled for October 2004. Future astronauts from Japan were also preparing for a flight. In the evening J.C. Trinder participated in a celebration meeting organized by the State University of Land Use Planning at the Cosmos hotel.



**V.N. Adrov, J.C. Trinder, A.D. Chekurin  
(company «Rakurs»)**

On May 26 J.C. Trinder visited the headquarters of the National Committee of Photogrammetrists of the Federal Service for Geodesy and Cartography and the Federal State Enterprise Goszemkadastr's'emka (VISKhAGI). A.V. Melnikov, an Executive Director of this enterprise, introduced photogrammetric works conducted at VISKhAGI. J.C. Trinder concluded the day at the Rossia Concert Hall where the MIIGAiK celebration party took place.

On May 27 V.N. Adrov, the Director General of the Russian company «Rakurs» introduced his company's developments to J.C. Trinder. «Rakurs» is the RSPRS collective member and the ISPRS sustaining member. Then J.C. Trinder visited the State Research Institute of Aviation Systems. S.Yu. Zheltov, the Institute's Deputy Director General, introduced results of the research conducted at the Institute in the field of photogrammetry. S.Yu. Zheltov is a member of the RSPRS Presidium.

# ABSTRACTS OF THE ARTICLES PUBLISHED IN THE GEOPROFI MAGAZINE IN 2003

## PROFESSIONAL HOLIDAYS

### **The Day of Geodesists and Cartographers**

#### ▼ **Applied (Engineering) Geodesy (A Short Story about Great Specialty)**

D.Sh. Mikhelev (Moscow State University of Geodesy and Cartography (MIIGAiK))

#1, p. 3

David Mikhelev, a professor, a laureate of the Krasovsky Prize, Ph.D., introduces the profession of a geodesist in details. Through the prism of applied geodesy, he briefly describes geodetic measuring techniques. The tasks solved by geodesists for designing, construction and maintenance of buildings are also outlined.

### **The Day of Geologist**

#### ▼ **Geodetic Support of Exploration Works**

A.G. Prikhoda (Siberian Research Institute of Geology, Geophysics and Mineral Resources, Novosibirsk)

#2, p. 3

A role of geodesy for the whole cycle of exploration works is highlighted. The tasks solved with geodetic measurements are defined. A particular attention is paid to the satellite geodetic support as the most advanced and promising technology. Standards and references are also given.

### **The Day of the Navy and Inland Water Transport Workers**

#### ▼ **Mapping for Contemporary Navigation**

S.S. Gubernatorov (C-MAP, St. Petersburg)

#3, p. 3

Mapping to support navigation is characterized in short. A particular attention is paid to the contemporary support of navigation, including satellite navigation systems and electronic navigation maps. The analysis is given for the development trends of the electronic cartography and sea navigation.

### **The Day of Builder**

#### ▼ **Features of Geodetic Works for the Construction Industry**

V.D. Feldman (Tektoplan, Moscow)

#4, p. 4

Recent structural and technological changes in geodetic support of construction are analyzed. In particular new small mobile organizations fulfilling geodetic works are marked out. However survey is still traditionally fulfilled by geodetic subdivisions of the building organizations.

The author pays attention to the deterioration of the present regulations and legislative rules of the building organizations' geodetic subdivisions and to the necessity of their reviewing and updating.

The final part of the article highlights the need in shortening the construction and installation works suspension, including that for geodetic control. The author pays attention that our country's transfer to the market relations causes this urgent need.

### **The Day of Foresters**

#### ▼ **Does Russia Need Information on the Forest Resources?**

V.G. Kresnov, V.N. Manovich (Zapsiblesproekt, Novosibirsk)

#5, p. 3

The problem of providing data about forest resources for the forestry, timber industry and governmental bodies is highlighted. A short retrospective analysis is given for the Russian forest management. Current tasks of the forest management as well as the ways for their solution based on both the GIS technologies and up-to-date software are given.

### **World GIS Day**

#### ▼ **The GIS Recognition Period Has Completed**

A.F. Surnin (Obninsk Municipal Information Center, Obninsk)

#6, p. 3

An assessment is given for the changes in understanding and usage of geoinformation systems in Russia within the recent decade. It has been marked that the market for and the infrastructure of the geoinformation systems have been formed, including organization of the centers able to disseminate knowledge and experience for the GIS-project development. The Obninsk Municipal Information Center (OGITs) is one of such centers. This Center annually organizes «Municipal Geoinformation Systems» conferences. The main topics of the 2004 Conference are listed.

## TECHNOLOGIES

### ▼ **Laser Scanners for Eternal Use**

E.M. Medvedev, A.V. Grigoriev (Geocosmos)

#1, p. 5

An operation principle of the laser locating scanners is described. A notion of a laser location image is explained. Comparative characteristics are given for the ground topographic and laser location surveys. Various application fields for the laser scanning technology are considered. Information is given about the ground laser scanning technology. A conclusion is made that the laser location technique introduction is promising for the geodetic and cartographic production.

#### ▼ Contemporary Field Data Collector — Requirements and Capabilities

Peter Houton (Trimble Europe)  
M.Yu. Karavanov (Trimble Export, Ltd., Moscow Office)  
#1, p. 25

General information is given on the field devices for data collection from various geodetic instruments. It is marked that the devices' capabilities have widened due to both the graphical display increase and the operating system Windows CE usage.

#### ▼ Archeological Applications of the Trimble GPS Instruments

O.N. Pomogaev (NavGeoCom)  
#1, p. 38

A description is given for the geodetic works conducted in November-December, 2001 for complex archeological studies in the area of Kom-Tuman (Giza). This site is located within the territory of Memphis, the ancient capital of Egypt. A technology of GPS measurements with the 4000SSE (Trimble) receivers is described. A technology of the data analysis is also presented for such software packages as the Trimble Geomatics Office 1.5 and Golden Software Surfer 7.0. The results of all the fulfilled studies are given.

#### ▼ Possibilities of the Karta 2000 GIS for Geodetic Measurements Processing

A.G. Demidenko (Topographic Service of the RF Armed Forces)  
#1, p. 38

The following modules of the Karta 2000 software package are described in details: Data import from geodetic instruments, Geodetic calculations and Geodetic Editor.

#### ▼ Stages of Satellite Technology Development by the Example of GPS

K.M. Antonovich (Siberian State Geodetic Academy (SGGA), Novosibirsk)  
#2, p. 6

An analytical review is given for the satellite technology development stages based on foreign publications. The following techniques are considered in more details: «quick statistics», «continuous kinematics», «kinematics «Stop-and-go» and «initialization in passing». Possibilities for the active geodetic networks development are highlighted. The ways of increasing the accuracy of the satellite measurements of global spatial coordinates are shown.

#### ▼ Complex Studies on the Local Geodynamics Sites

A.A. Genike (Moscow State University of Geodesy and Cartography (MIIGAiK)  
V.N. Chernenko (Zagorsk Atomic Power Station)  
#2, p. 11

An analysis is given for the complex approach to studying geodynamics processes on the territory of the Zagorsk Atomic Power Station. A description is given for all the types of measurements — geodetic, geophysical and hydrogeological. A particular attention is paid to the usage of satellite techniques for determination of spatial coordinates during geodynamics monitoring.

#### ▼ A Technology of Longitudinal Profile Measurement Using Dipstick-2000 Micro Level

I.V. Groshev (JSC Progresstech Ltd.)  
#2, p. 25

A short description of the Dipstick-2000 Micro Level is given. A technology is introduced to measure a longitudinal profile of artificial runways at airports using this instrument. The differences in runway pavement points' heights were measured. The results of these measurements accuracy assessment results are given. A conclusion is made on the possibility of using the approved technology.

#### ▼ Usage of the CMS Laser Scanning System in Mine Survey

A.G. Grunin (Jena Instrument)  
#2, p. 30

The laser scanning system — the Cavity Monitoring System (CMS) — is described. A technique of non-contact survey of underground openings together with the results of the measurement processing are given. There presented the results of testing the system's three complexes in the Norilsk Nickel underground openings in 2003. The information on the CMS certification and adaptation for the Russian users is given.

#### ▼ An Experience of Using the Ortophotoplan GIS Constructor for Photogrammetric Applications

V.N. Kolesnikov, S.V. Proshchaev (Digital Terrain Maps)  
#2, p. 32

A description is given for the digital photogrammetric complex developed on the basis of the GK32 GIS Constructor. The principal modules of the software developed — spatial phototriangulation and image correlator — are described in details. Image ortho-rectification technique is also presented.

#### ▼ CYCLONE — a Software Package for Processing Ground Laser Scanning Data

M.Yu. Druzhinin (G.F.K. Company)  
#2, p. 37

A description is given of both the technical characteristics and capabilities of the CYRAX2500 laser scanner and the Cyclone software delivered together with the scanner. Capabilities of several software modules are considered in details including the following: Scan (the scanner adjustment), Register (alignment of point clouds), Model (point data processing) and CloudWorx (point cloud 3D output and processing using AutoCAD and MicroStation packages).

#### ▼ Karta 2000 GIS Application for Land Use Records Formation Using Geodetic Measurements

A.G. Demidenko (Topographic Service of the RF Armed Forces)  
#2, p. 42

The main requirements for the graphics and attributive information used in land use planning are given. Modules of the Karta 2000 GIS used for geodetic data processing and report preparation are described.

#### ▼ How Did We Choose a Laser Scanner

S.R. Melnikov (Geocosmos)  
#2, p. 45

Geocosmos experience of using aircraft and ground laser scanning systems is described. Technical characteristics are listed for the following ground laser systems: Callidus 1.1 (Callidus), Cyrax 2500 (Cyra Technologies), ILRIS-3D (Optech), SOISIC (MENSI). The reason for choice of the RIEGL LMS for ground scanning systems is substantiated. The main application fields are given for the scanner chosen.

▼ **Moving Objects Monitoring System for the Internal Troops of the RF Ministry of Internal Affairs**

D.A. Gusev, E.A. Simokhin (Center for Situation Simulation of the Main Center of the Automatic Control System of the RF Ministry of Internal Affairs)

#3, p. 9

A system for monitoring mobile objects is described. Results of the system testing during the 300<sup>th</sup> Anniversary celebration of St. Petersburg are given. The test results were also analyzed and presented.

▼ **Solution of the Navigation Tasks Using the Karta 2000 GIS**

O.V. Belenkov (Topographic Service of the RF Armed Forces)

#3, p. 12

The Karta 2000 geoinformation system is presented in the context of the navigation data processing. Capabilities of the system's modules are described. Examples of the system practical applications are given.

▼ **Pocket PC for Navigation, Routing and Mapping**

K.V. Mushich (Siberian State Geodetic Academy (SGGA))

#3, p. 14

A brief description of the functional capabilities of the contemporary pocket PC is given. Their usage for processing digital cartographic data and the satellite navigation data is reviewed. The navigation map developed at the Siberian State Geodetic Academy and intended for usage on the pocket PC is described.

▼ **MEMS/GPS Is a Compact Integrated Navigation System**

O.S. Salychev (Bauman Moscow State Technical University)

#3, p. 16

An interview with a developer of the MEMS/GPS system and the head of the laboratory of the inertial geodetic systems at the Bauman Moscow State Technical University. O. Salychev is a professor at the Calgary University and a member of the International Association of Geodesists and the International Navigation Institute.

▼ **How Did We Choose a Laser Scanner (continued from # 2-2003)**

S.R. Melnikov (Geocosmos)

#3, p. 33

The choice of the RIEGL LMS family ground scanning systems is substantiated. Their main technical characteristics are given. An analysis of their technical capabilities is done. Geocosmos applications using laser technology are presented. Recommendations are given for the companies intending to use laser technologies.

▼ **The Role of a Common Cartographic Base for the Risk Management and Civil Defense GIS Creation in the Ural Region**

A.A. Alyabiev, Zh.V. Pushchina, A.V. Paklina (Ural Regional Industrial Center of the Geoinformation (Uralgeoinform), Ekaterinburg)

#3, p. 35

A necessity in using a common digital cartographic base for the geoinformation project development is highlighted. A description of the Risk Management and Civil Defense GIS for the Ural Region is given.

▼ **Nedra-Geo Is a Software Package for Creation and Maintenance of Electronic Data Bases for Topographic and Geodetic Applications**

S.R. Reizvikh, M.V. Blinov (Nedra Company)

#3, p. 38

The Nedra-Geo software package is presented. A set of tasks to be solved with this package is outlined. The software options are analyzed in details. The package certificates are also given.

▼ **Land Use Records. End-to-End Solution by MosTsTISIZ**

G.V. Erko (Moscow Central Trust for Engineering and Construction Surveys (MosTsTISIZ))

#3, p. 41

The software package «Land Use Records» is described. The package has been developed to form land use records using Microsoft Word 2000 and higher versions. The technological procedure is given.

▼ **An Experience of Geodetic Work Automation for Elevated Roads Construction**

M.Ya. Sheiner (ELGAD Association)

S.M. Rogov, V.Yu. Volgin (ELGAD Most LLC)

#4, p. 6

An experience of geodetic support for the Tuskaya junction of the Moscow 3<sup>rd</sup> belt highway construction is presented. Characteristic features of this object construction and the geodetic support are highlighted. Information is given for the basic technologies, including marking with the Topcon 501 and Topcon 702 electronic tacheometers, preparation of layout drawings and compilation of survey plan directly on the construction site using the AutoCAD software package.

▼ **On Laser Builders of Planes and Directions**

S.A. Kulikov, I.A. Bukreev (LaserBuild)

#4, p. 10

A classification of the laser builders of planes and directions is given. The review of technical characteristics for the following instruments is presented: rotary plane builders with visible and invisible laser beam, static builders with fixed laser beam, laser devices for vertical survey, pipe and other type laser direction indicators. The destination is given for every instrument type.

▼ **On the Results of New Laser Devices Tests**

S.A. Kulikov, I.A. Bukreev (LaserBuild)

A.I. Spiridonov, A.A. Efremov, S.V. Soloviov (Central Research Institute of Geodesy, Aerial Surveying and

Cartography (TsNIIGAiK)

#4, p. 14

The results of metrological tests are given for the laser levels MP 40 (Sokkia, Japan) and FL 40, FL 50 and Tamoliner III (Tamoline Oy, Finland). Advantages and disadvantages of these instruments are marked out. Conclusions are made on the test results.

▼ **Laser Scanner Is Not a Luxury But a Mean for Remote Sensing**

E.M. Medvedev (Geocosmos)

#4, p. 16

General information on the aero laser scanners is given. Tasks being solved with the laser location techniques are listed. A principal description of the laser locator operation is presented. The accuracy of the laser location technique is analyzed in detail.

▼ **Capabilities of Non-Metric Cameras for Ground Photogrammetry**

M.N. Koeva, V.P. Petrova, D.V. Zhechev (GIS SOFIA, Bulgaria)

#4, p. 19

Features of non-metric cameras are highlighted. A list is given for the tasks to be solved with the non-metric camera and the ways of their solution. Advantages and disadvantages are indicated for each technique. An experiment of using digital and analog non-metric cameras is described. The results of the experiment are given and analyzed.

▼ **Usage of the Hand-Held Laser Range Meters in Construction**

L.Yu. Sokolov (G.F.K. Company)

#4, p. 25

Advantages of using hand-held laser range meters and reflectorless technology as a whole are outlined. General information on the range meters of the DISTO series (Leica Geosystems, Switzerland) is given. Several range meter models and the associated DISOFTmini software are described in details.

▼ **Analysis of Software Packages Capabilities for Graphical Data Processing**

Yu.D. Mikhelev (Mosgorgeotrest)

A.A. Lobanov (Moscow State University of Geodesy and Cartography (MIIGAiK)

#4, p. 34

Criteria for the software assessment are indicated. AutoCAD 2002, MicroStation and MapInfo Professional software packages are interrogated.

▼ **MicroStation And the Land Cadastre, Or Why We Have Chosen the MicroStation**

A.Yu. Konstantinov (VISKhAGI-TsENTR)

#4, p. 37

Requirements for the software used for land use planning are defined. Choice of the MicroStation software as the basic package is substantiated. Applications being developed by the specialists of the VISKhAGI-TsENTR Enterprise are described.

▼ **Atlas of Novosibirsk for the Municipal Infrastructure Management**

V.A. Sereдович, A.G. Nevolin, E.L. Kasianova, D.V. Dmitriev, V.N. Korsun (Siberian State Geodetic Academy (SGGA), Novosibirsk)

#4, p. 39

A brief description is given for the Atlas of Novosibirsk. This Atlas was developed at the Siberian State Geodetic Academy by an order of the Novosibirsk City Administration.

▼ **Usage of the GPS Navigation Receivers for Compilation of Digital Maps and Forest Resources Plans**

V.N. Manovich, V.V. Maksimuk (Zapsiblesproekt, Novosibirsk)

#5, p. 7

Information is given on the studies of the accuracy of determining coordinates by satellite techniques in order to rectify aerophotoimages. The image rectification was fulfilled using two techniques: by reference points on the topographic map (a traditional technique) and by the reference points which coordinates were determined with the Garmin GPS-12 satellite receivers (the new technique). A conclusion is made on the possibility of using the Garmin GPS-12 navigation receivers for the compilation of thematic maps on a scale of 1:25,000.

▼ **A System of the Cadastre Data Collection Using the Trimble AG132 Satellite Receiver Controlled by ArcPad 6.0.2**

Yu.A. Knyazev, S.A. Negrafontov (Taganrog Cadastre Bureau)

#5, p. 9

Various combinations of the satellite equipment and the software for cadastre surveys are considered. A choice of the Trimble AG132 with the Compaq iPaq 3660 pocket PC and the ArcPad software (ESRI, Inc., USA) is substantiated. A description is given for each system's element. The testing procedure for the differential correction using OmniSTAR satellite service is described. The testing results are also presented. Possible application fields are highlighted.

▼ **Characteristic Features of Conducting Geodetic Works in Greece**

S.A. Mironov (Sovremennye Geotekhnologii)

#5, p. 13

A technology of geodetic works to choose reference points and determine their coordinates in order to transform QuickBird and IKONOS satellites images is described. The works were conducted in Greece nearby the town of Patry using the Topcon equipment. The climatic and other conditions of conducting GPS measurements are described. An analysis is presented for the results of determining the coordinates of the points within the town territory and the highways.

▼ **Topographic Conventional Signs in the Digital Cartography. Classifier of Conventional Signs for the MiscoStation Package**

A.Yu. Konstantinov, E.A. Zhuravliov, V.V. Kravtsov (VISKhAGI-TsENTR)

#5, p. 16

The problems of identification of conventional signs in the digital cartography are analyzed. An experience in the development and introduction of the program «Classifier of conventional signs» is given. The program was developed for the MicroStation environment. It was intended for the compiling plans on scales of 1:5,000–1:500 and agricultural maps on scales of 1:10,000 and 1:50,000.

▼ **Laser Scanner Is Not the Luxury But a Mean for Remote Sensing (continued from # 2-2003)**

E.M. Medvedev (Geocosmos)

#5, p. 19

Laser location instruments presented at the INTERGEO exhibition are analyzed. Results of the aerial surveying works fulfilled by the Geocosmos company in 2003 are given. Several promising trends of the laser location survey technique are presented, including registration of the reflected wave shape, development of the systems for basimetric works and change for array-type receivers.

▼ **Usage of Reflectorless Tacheometers and the CREDO Complex Systems for Surveying Buildings' Facades**

A.V. Spitsyn (Triada Plus, Kazan)

A.A. Chernyavtsev (Geostroizyskaniya)

#5, p. 40

A technique of surveying buildings' facades is described. The applied firmware consists of the TS3605DR reflectorless tacheometer and the CREDO\_DAT and CREDO\_MIX system. Features of the field and office studies of a specific object are analyzed. The main stages of work are listed. Explanatory sketches and illustrations are given.

▼ **Technology of Surveying Underground Openings Using Electronic DR-Tacheometers**

I.V. Sukhov (G.F.K. Company)

#5, p. 44

A technology of surveying underground openings using electronic robotic tacheometers (Leica Geosystems) is described. A procedure of compilation survey and underground openings survey using the section technique is given. Characteristic features of the instrument and the built-in software are highlighted.

▼ **Information Support for Engineering Networks Maintenance. Advises by Outsider**

A.R. Eksaev, M.G. Shumyatsky (Potok Information and Computation Center)

#6, p. 8

The main stages of introducing information systems and technologies at enterprises running engineering communications are marked out. These stages are as follows: choice of the cartographic base, software choice and purchase, data collection, preprocessing and input. Practical recommendations are given for each stage.

▼ **Laying of Lines with Coordinate Referencing**

L.A. Cherkass (Polotsk State University, Belorussia)

A.P. Pigin (Kredo Dialog, Minsk, Byelorussia)

#6, p. 14

Problems of using lines with coordinate referencing are considered. Relative technique was used to analyze the accuracy of the lines with the coordinate referencing. Recommendations are given for layout and processing the lines of this type.

▼ **Role of Computers in Digital Cartography**

V. V. Kravtsov (VISKhAGI-TsENTR)

#6, p. 19

A history of evolution of both computers and digital cartography is briefly presented. A diagram is given for the digital map compilation. Practical recommendations are given to choose a computer configuration for a station for digital cartographic works.

▼ **Laser Scanner Is Not the Luxury But a Mean for Remote Sensing (continued from No. 4 and 5, 2003)**

E.M. Medvedev (Geocosmos)

#6, p. 23

Mathematical and computer techniques for processing laser location data are considered.

▼ **Structure of a GIS Distributed Base**

E.A. Zhalkovsky, V.I. Lazarev (Schmidt United Institute of Physics of the Earth, Russian Academy of Sciences (Schmidt UIPE RAS)

#6, p. 34

It is stressed that the development of a state geoinformation policy is of urgent need. The top priority tasks are formulated. The concept and a structure of a distributed database are introduced. The main elements of the distributed database are given. Advantages of the on-line and distributed database usage are shown.

▼ **Reference Geoinformation System of the Volga River Basin**

E.K. Nikolsky, E.G. Dryakhlova, A.G. Polyansky (Nizhny Novgorod State University of Architecture and Civil Engineering)

#6, p. 37

Reference GIS of the Volga river basin is described. This GIS was developed based on the GeoDraw/GeoGraph and MapInfo software packages. The tasks to be solved with this GIS are listed. The GIS components are described in detail.

▼ **Cargo Transportation Planning and Control at Megalopolis**

M. Sudeikin, M.E. Petrov (ERMA GEO SOFT)

#6, p. 39

A concept is described for the first in Russia complex system of cargo transportation in large cities using GPS receivers. The main stages of controlling cargo delivery are considered. The SITY-Delivery subsystem is also presented. This subsystem provides for request distribution between runs as well as for planning routes with time corridor formation.

## STANDARDS AND REGULATIONS

### ▼ Standards Specifying the Procedure of Conducting Geodetic and Cartographic Works Approved in 2002

V.V. Groshev (Geoprofi Magazine)

#1, p. 35

The reasons for non-coordination of the standards approved in 2002 are considered. The list of the documents is given together with the relevant annotations.

### ▼ Technical Standards for the Moscow Reference Geodetic Network Development

A.V. Antipov, S.G. Gavrilov (Mosgorgeotrest)

#4, p. 44

A review is done for the standards and technical documentation determining the technology of conducting field and office studies to develop a reference geodetic network of Moscow (Moscow OGS). These documents were developed in 2001–2002 by the experts from Mosgorgeotrest. These documents are as follows: the main regulations on the development of and updatment the Moscow OGS, the instructions defining the procedure of conducting field survey using satellite geodetic systems, electronic tacheometers and electronic levels as well as the instructions on data processing.

Information is given on this documentation usage in 2001–2002. It is concluded that the Moscow OGS developed based on the new technology can be used as a geodetic base for topographic surveys on a scale 1:200 and smaller.

### ▼ A Project of Mobile Verification Lab for Metrological Support of Geodetic Works in Construction

S.V. Soloviov (Central Research Institute of Geodesy, Aerial Surveying and Cartography (TsNIIGAiK))

#5, p. 47

A need in shortening the period between the verification procedures is highlighted for the metrological support of geodetic works in construction. The structure of the equipment necessary is given for such a mobile verification laboratory as well as the requirements for the verification sequence and the verification officers.

## INTERNET RESOURCES

### ▼ GIS-Association's Web Site ([www.gisa.ru](http://www.gisa.ru)) Navigator

#1, p. 28

The main sections of the web site of the Inter-regional public organization to advance the development of the market of geoinformation technologies and services provided by the GIS-Association are presented.

### ▼ Description of the NavGeoCom Web Site ([www.agp.ru](http://www.agp.ru))

#1, p. 29

The main sections of the NavGeoCom site are presented.

### ▼ Javad Navigation Systems Web Site Description ([www.javadgps.ru](http://www.javadgps.ru))

#2, p.35

The main sections of the Javad Navigation Systems (USA) web site are given, including Products, Technologies, Sales, Support and News. This site addresses both users of the Company's products and those planning to purchase or to get acquainted with the satellite equipment.

### ▼ GISinfo.RU Project Celebrates Its First Anniversary

#3, p. 25

Information on the GPSinfor.RU project is given. The main site's sections are presented, including News, Articles, Catalog, Forums and References.

### ▼ The Cartographic Portal «World of Maps» is the winner of the Russian Internet Prize 2003

A.V. Simonov (Pushchinsky Center for New Information Technologies)

#4, p.41

Information on the National Internet Prize is given. This portal of interactive maps — the «World of Maps» — won this prize in 2003. This portal was developed by the Pushchinsky Center for New Information Technologies. General information is given to present this portal. Prospects for the future are marked out.

### ▼ Internet Shop for the Navigation and Communications Facilities ([www.jj-connect.ru](http://www.jj-connect.ru))

#5, p. 38

Brief information is given on the modern sale form via an internet shop. The Internet shop of the JJ-GROUP specializing in selling GPS-navigators and compact radiostations is presented. Detailed description is given for the site sections, including Product Catalog, Basket, Ordering, Help, Articles, News.

### ▼ Non-Commercial Usage of Spaceborne Imagery ([www.transparentworld.ru](http://www.transparentworld.ru))

#6, p. 32

Internet site of the Non-commercial Partnership «Transparent World» is introduced. This site addresses non-commercial usage of space imagery. A detailed description is given for the site's sections, including Library, Education, Gallery, Tourism, Fundraising and Events. This site addresses a wide audience.

## DIFFERING OPINION

### ▼ Non-Scientific Viewing on the Theory of Geodetic Mistakes

S.A. Mironov (Sovremennye Geotekhnologii)

#3, p. 43

Based on his own experience the author calls doubts on the verity of certain near-to-geodesy statements which serve the ground for the instructions and technical documentation being in force.

### ▼ What Needs Changes in the Conservatoire?

E.B. Klyushin, V.V. Shlapak (Moscow State University of Geodesy and Cartography (MIIGAiK))

#6, p. 42

The authors prove the correctness of the statements doubted by S.A. Mironov in the article «Non-Scientific Viewing of the Theory of Geodetic Mistakes» (#3, 2003). The arguments given are based on the works by K.F. Gauss.

## PROFESSIONAL ASSOCIATIONS

### ▼ Educational and Methodological Associations in Geodesy, Photogrammetry and Remote Sensing

V.P. Savinykh (Moscow State University of Geodesy and Cartography (MIIGAiK)  
#2, p. 51

An interview is given by V.P. Savinykh, a rector of the Moscow State University of Geodesy and Cartography and the Chairman of the Council and Presidium of the Educational and Methodological Association of Education in Geodesy, Photogrammetry and Remote Sensing. He presents the structure and the main objectives of the Association. There listed the Association's institutes graduating specialists in geodesy, photogrammetry and remote sensing. The members of the Association Presidium are also presented.

### ▼ Educational and Methodological Associations in Land Use Planning

S.N. Volkov (State University of Land Use Planning (GUZ)  
#3, p. 51

An interview is given by S.N. Volkov, a rector of the State University of Land Use Planning and the Chairman of the Presidium of the Educational and Methodological Association of Education in Land Use Planning. He presents the structure and the main objectives of the Association. There listed the Association's institutes graduating specialists in land use planning. The members of the Association Presidium are also presented.

### ▼ Educational and Methodological Associations in Classic University Education. Cartography and Geoinformatics Section

A.M. Berlyant (Lomonosov Moscow State University)  
#4, p. 5

An interview is given by A.M. Berlyant, a head of cartography and geoinformatics department of the Lomonosov Moscow State University and the Chairman of the cartography and geoinformatics section of the Educational and Methodological Association of Classic University Education. He analysis the problems faced while preparing the State general education standard in geoinformatics. There listed the Association's institutes graduating specialists in cartography and geoinformatics. The members of the Association section are also presented.

### ▼ Russian Association of Private Land Surveyors

V.V. Alakoz (Russian Association of Private Land Surveyors)  
#6, p. 44

An interview is given by V.V. Alakoz, the President of the Russian Association of Private Land Surveyors and the Director General of the «Survey Board» Consortium. He tells about the structure and activities of the Association. V. Alakoz intro-

duces the «Survey Board» Consortium founded by the Association's initiative. There listed the members of both the Board of the Association and the «Survey Board» Consortium.

## EDUCATION

### ▼ The 70<sup>th</sup> Anniversary of the Siberian State Geodetic Academy

I.V. Lesnykh (Siberian State Geodetic Academy (SGGA), Novosibirsk)  
#1, p. 50

The rector of the Academy tells its history from the Siberian Institute of Astronomy and Geodesy (Omsk) to the Siberian State Geodetic Academy. A brief description is given for the contemporary research and pedagogical base as well as for the specialties.

### ▼ On Teaching the «Engineering Geodesy» at Non-Geodetic Institutes

Yu.D. Roev (26<sup>th</sup> Central Research Institute of the RF Defense Ministry)  
#2, p. 54

The problems of teaching the engineering geodesy at non-geodetic educational institutions, including those in building institutes are discussed. It is marked that the main problem consists in this subject classification in the curriculum as a general education subject. Analysis is given for the necessary components of the qualitative teaching, including the balanced curriculum, availability of the manuals, methodological brochures and equipment as well as the professional skills of the teachers.

### ▼ Improvement of the Efficiency of Teaching Engineering Geodesy for Building Specialties

A.P. Voroshilov, Yu.F. Kutin (Yuzhno-Uralsk State University, Chelyabinsk)  
#5, p. 54

Teachers of the Yuzhno-Uralsk State University continue discussion on teaching the «engineering geodesy» at the building departments of educational institutions. Yu.D. Roev brought up this problem in No. 2, 2003. The authors describe their experience at the University. They split the engineering geodesy in two blocks - the engineering geodesy grounds (the first year) and geodesy in building (the 4<sup>th</sup> year). This educational scenario efficiency is substantiated.

### ▼ Practical Work in Topography for the Students of the Geographic Faculty, Lomonosov State University

A.M. Berlyant, B.B. Serapinas, A.A. Suchilin (Lomonosov Moscow State University)  
#6, p. 51

Features of the topographic practical work for the students of the Geographic Faculty at the Lomonosov Moscow State University (MSU) are highlighted. The practice curriculum is given together with the detailed description of the Satino educational and research base including measuring devices and facilities. A description is also given for the software based on the Practice soft package developed at the MSU Department of cartography and geoinformatics.

## THE WORLD OF HOBBIES

### ▼ A Funny Trip to the World of «Round Degrees»

R.V. Zagretdinov (Kazan State University)

#1, p. 46

This story is about funny applications of satellite navigation receivers providing for geolocation of objects by the known spatial coordinates. In particular a description is given for the project targeted at location the points where meridians and parallels have the integer degree numbers (Degree Confluence Project — DCP). The author gives information on such points on the territory of the Tatarstan Republic. These points were located by the author.

### ▼ «Op-Art» Is an Optical Art in Germany at the Edge of the Fifties and Sixties

E.V. Orlova (Moscow State University of Geodesy and Cartography (MIIGAiK))

#5, p. 49

Creative art work of various artists is described. Arts critics classify these art works in different ways like optical (op-art) art, celestial or land-art. This art originated in the second half of the XXth century. The Earth, the sky, the Sun and water become an integral part of the exposition while electric and fluorescent lamps allow to experiment. There are ideas to create a museum to show the energy, intensity and power of the light. This kind of art is described on an example of the ZERO-group working in Germany for about five years and organized by Mack, Piene and Uecker.

## HISTORICAL TRIP

### ▼ Levels — from Optical to Electronic

O.V. Evstafiev (Geotehservis-2000)

#1, p. 42

A history of optical leveling instruments as well as the description and technical characteristics of the most popular engineering levels are presented. Design features of the contemporary digital leveling instruments are also introduced as well as the performance of the Trimble DINI series.

### ▼ 225<sup>th</sup> Anniversary of the Moscow State University of Geodesy and Cartography (MIIGAiK)

V.S. Kusov (Lomonosov Moscow State University)

#2, p. 47

Based on the archives a brief description is given for the historical stages of the creation and renaming the Moscow State University of Geodesy and Cartography. For the 225 years of its history this educational institution changed its name several times. In 1930 it was reorganized in two institutes — the Moscow Institute for Geodesy and the Moscow Institute of Land Use Planning. In six years the first institute was reorganized in the Moscow Institute of Geodesy, Aerial Photosurveying and Cartography (MIIGAiK). In 1993 this institution got a status of the university and became the Moscow State

University of Geodesy and Cartography.

### ▼ 225<sup>th</sup> Anniversary of the State University of Land Use Planning

S.N. Volkov, A.V. Kupchinenko, I.I. Shirokorad (State University of Land Use Planning)

#3, p. 45

A history of formation of land use planning (surveying and measuring) in Russia as well as the system for training specialists are described. Keeping on the traditions laid 225 years ago the Konstantinovskiy Land Use Planning Institute reconstructed the Church of St. Constantine and Helena, the Equals of the Apostles Church. Then Alexy II the Patriarch of Moscow and Russia sanctified this Church. There were instituted the Gold and Silver honorary academic medals and the honorary Konstantinovskiy medal of three classes. These medals were awarded to the honorary professors of the University and those who made an essential contribution to the development of the land survey education in Russia. Cultural, pedagogic and research activity of the teachers working at the State University of Land Use Planning is highlighted in details dating back to the old times and up to the present.

### ▼ Cartographic Routes of Izmailovo

V.S. Kusov (Lomonosov Moscow State University)

#4, p. 51

Information is presented on geographical drafts (about 1,050) drawn in 1650-1700 and preserved till today. A detailed description is given for a fragment of one of these documents for the Izmailovo region of Moscow. This document dates back to 1660.

### ▼ Optics with a Perfect Genealogy

Yu.E. Eidinova (Federal State Unitary Enterprise «Production Association «Ural Optical and Mechanical Plant» (UOMZ), Ekaterinburg)

#5, p. 53

The history of the Uralsk Optico-Mechanical Plant is presented. The description is given for the geodetic instruments produced by the Plant at present. It is concluded that the perfect quality of the output products laid by F.B. Shvabe, the founder of the Plant, 150 years ago, has not been lost.

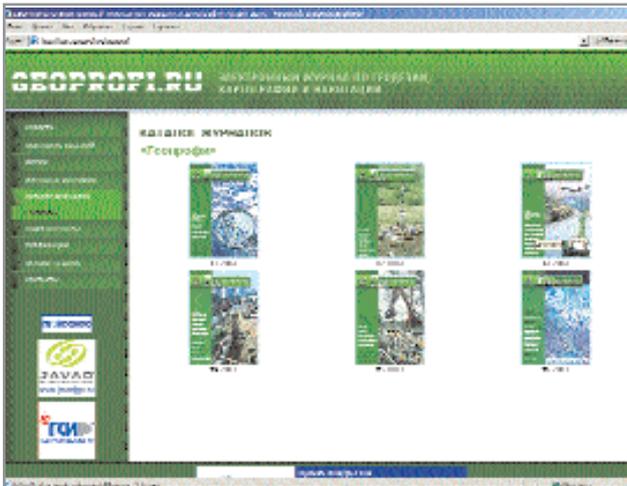
### ▼ Amsler Polar Planimeter

T.V. Ilyushina (Moscow State University of Geodesy and Cartography (MIIGAiK), A.Yu. Serov (MosgorBTI))

#6, p. 49

A history of the Amsler polar planimeter creation is given together with its technical characteristics and principles of operation. This planimeter has a restrictor on the tracer arm. This device is exhibited at the educational geodetic museum at MIIGAiK. The squares of different size sites chosen in the cadastre plan (1:5000) were determined using this device and the MapINFO GIS. The results of determination accuracy assessment are given.

# «GEOPROFI.RU» — ON-LINE MAGAZINE IN GEODESY, CARTOGRAPHY AND NAVIGATION



The Geoprofi Editorial Board introduces its site — [www.geoprofi.ru](http://www.geoprofi.ru). The site is organized as an on-line magazine presenting both the materials published and the additional information provided by the partners, including news, abstracts of the articles published in other editions, reference information about companies, equipment, software, various data types and a glossary.

At the end of every year subscribers get a CD-ROM with the site's electronic copy as well as the «GEOPROFI.RU» magazine with the abstracts of the articles allocated in the site, advertising information on the companies and their activities within the year passed as well as the reference information on the «Geoprofi» magazine authors and subscribers.

The site has the following sections.

## ▼ News

News on the companies conducting works in geodesy, cartography and navigation.

## ▼ Calendar of Events

The Calendar dates back to the events of 2003. The events have references to the publications in the «Geoprofi» magazine.

## ▼ «Geoprofi» Magazine

The following information is given: how to purchase the magazine, a request form, a receipt for payment in cash, requirements for the materials submitted for publication and authors' royalties.

## ▼ Geoprofi Catalog

Contents of all the «Geoprofi» issues starting from 2003

in the .pdf format.

## ▼ Our Partners

This section consists of the following items:

— **authors:** an alphabetical list of authors with a brief biography and the reference to the article's issue number and page number;

— **organizations:** a list of companies submitted either an article or an advertisement in the chronological order with a reference to the publication's issue number and page number; and

— **subscribers:** a list of the GeoProfi subscribers with an indication on the city, region, company (or person) name.

## ▼ Publications

Publications are classified in the following topics: Professional Holidays, Technologies, Standards and Regulations, Internet Resources, Professional Associations, Education, Historical Trip, The World of Hobbies.

## ▼ Catalog of References

There are the following references:

— **companies:** brief information on the companies conducting works in geodesy, cartography and navigation;

— **data:** information on the geodetic, cartographic, aerospace and other spatial data offered in the Russian market;

— **equipment:** information on geodetic, photogrammetric and navigation facilities and instruments;

— **software:** information on geodetic, cartographic, photogrammetric and GIS software and on the computer-aided design systems;

— **methods:** classification of the techniques offered with a list of articles from the Publication section presenting usage of this technique; and

— **application fields:** classification of application fields with a list of articles from the Publication section on the relevant subject.

## ▼ Glossary

Terms used in geodesy, cartography and navigation are given in an alphabetical order.

## ▼ Contact Information

Address, phone number and e-mail address of the Geoprofi Editorial Board and the Prospekt Publishing House.