

DEPARTMENT OF SURVEYING

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I. STAFF

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II. EQUIPMENT

II.1 Teaching and Research Laboratories

Surveying Laboratory - Practical and experimental courses in Surveying and Engineering Surveying are provided. A testing field of more than 100 signalised points, 10 measuring pillars and other measuring equipment are at the students' disposal.

Photogrammetry Laboratory - research laboratory focusing on analytical photogrammetry methods. Teaching photogrammetry subjects, graduate and Ph.D. theses.

Počúvadlo Field Campus - in the vicinity of Banská Štiavnica (Central Slovakia). The campus is used for training in basic surveying technologies. A field of more than 50 stabilised measuring points in the state coordinate system is at the students' disposal.

Gabčíkovo HS Field Campus - consists of a group of industrial structures (hydroelectric station, lock gates, turbines, etc.). Automatic measuring systems and control points for deformation measurement are installed. Practical and experimental courses and measurements for engineering surveying subjects are supervised there.

II.2 Special Measuring Instruments and Computers

More than 100 theodolites, levels, one special Trimble DiNi 12 precision levelling instrument, one special Trimble 3602 DR antifiare electronic tacheometer and other electronic tacheometers are at the students' disposal. They can use the Faculty's computer laboratories and multi-licence software as well as the Department's 14 computers and special software.

ORIENT analytical adjustment software is used for the resolution of single, n-pictures, and photogrammetric adjustment problems and is based on the principle of projective transformation (collinearity condition) of photographs into a reference system, where they are mutually adjusted (in a block) by means of the bundle method. This software was developed at the Vienna Technical University at the Institute for Photogrammetry and Remote Sensing. The Leica Digital Video Plotter (DVP) is a fully digital system. The DVP is a simple and inexpensive digital photogrammetric station with easy-to-learn software and low maintenance costs. It is an ideal instrument for educational institutions to demonstrate the principles of analytical and digital photogrammetry.

The equipment for testing and calibrating accelerometers was developed and constructed by the Department. Three lasers, 10 electronic tiltmeters and 16-channel registration equipment can be used for special engineering surveying courses, diploma theses and Ph.D. theses.

The CCD-based IL 2000 measuring system was constructed at the Department. The light trace or shadow illuminated by measured objects can be detected and processed by the system. The measuring range of the system is given as 0-100 mm. The 22.521 mm size of the CCD is magnified by an objective lens and diffuser. The system is used for conducting measurement tasks in special engineering surveying courses, diploma theses and Ph.D. theses.

III. TEACHING

III.1 Graduate Study

Subject	Semester	Hours Per Week		Lecturer
		Lectures	Seminars	
Surveying I	1	3	3	Š. Sokol
Surveying II	2	3	3	Š. Sokol
Surveying III	3	3	3	Š. Sokol
Surveying Camp	2	2 weeks		J. Ježko
Engineering Surveying	4	2	3	V. Staněk
Engineering Surveying	7	2	3	V. Staněk

Surveying in Building Construction	1	2 - 2	V. Staněk, G. Hostinová
Surveying for Water Management	4	2 - 3	G. Hostinová
Surveying for Engineering Construction	4	2 - 3	V. Staněk
GIS for Urban Management	9	2 - 1	P. Bartoš
Photogrammetry and Remote Sensing	6	2 - 3	P. Bartoš
Applied Analytical Photogrammetry	8	2 - 2	P. Bartoš
Measuring Systems in Engineering Surveying	9	2 - 2	A. Kopáček
Industrial Surveying	9	3 - 2	Š. Lukáč
Surveying Camp for Engineering Construction and Water Management	5	1 week	V. Staněk, G. Hostinová
B. Sc. Project	6	0 - 2	
Engineering Surveying Camp	9	2 weeks	A. Kopáček
Engineering Surveying Camp	4	2 weeks	V. Staněk
Special Seminar	10	1 - 6	
Complex Surveying Design	10	1 - 4	
Special Seminar	9	1 - 2	
Professional Practice	4	3 weeks	J. Ježko
Surveying in Civil Engineering	2	3 - 3	A. Kopáček
Graduate Theses	10	5 weeks	
Surveying in Underground Areas	8	2 - 2	A. Kopáček
Legislation of Geodetic Activities	10	2 - 1	Š. Lukáč
Photogrammetry and Remote Sensing	9	2 - 3	P. Bartoš
Photogrammetric Mapping and GIS	9	3 - 2	P. Bartoš
Geodesy, Cartography and Cadastre	5	3 - 2	P. Bartoš

IV. RESEARCH TARGETS

Research activity focuses on the main departmental subjects, especially engineering surveying and photogrammetry. In engineering surveying, the main topics are measurement and prediction of deformations, optimization of design and measurement of local surveying control networks, and design and testing of automatic measurement systems. The results are applied in the construction industry (nuclear power plants, dams, bridges, etc.). Research activities in photogrammetry and remote sensing are focused on analytical photogrammetry and its application in architectural monument conservation, environmental protection, water management, and energy exploration.

V. RESEARCH PROJECTS

1. Research Grant Registration No. 1/1153/04: Integrated Measurement Systems of Data Collection and Data Processing for the Creation of Deformation Models of Building Structures and Rock Environments (P. Bartoš, et al.)
2. Research Grant Registration No. 1/0318/03: Integrated Measurement Systems for Monitoring Dynamic Deformations of Building Structures (A. Kopáček, et al.)
3. DAAD International Project No. 7/2003: Application of Terrestrial Laser Systems in Engineering Surveying in the Slovak Republic (A. Kopáček, et al.)

4. EEGECS Socrates Project: European Education in Geodetic Engineering, Cartography and Surveying (A. Kopáčík)

VI. COOPERATION

VI.1 Cooperation in Slovakia

1. Department of Mining Surveying and Geodesy, TU Košice
2. Department of Surveying, TU Žilina
3. Research Institute of Geodesy and Cartography, Bratislava
4. Department of Geotechnics, STU Bratislava
5. Department of Engineering Geology, UK Bratislava
6. Institute of Geodesy and Cartography, Bratislava
7. Institute of Metrology, Slovak Academy of Sciences, Bratislava
8. Slovak Roads Office, Bratislava
9. Slovak Electrical Corporation, Trenčín
10. Slovak Institute of Technical Normalization, Bratislava
11. Geofos, Ltd., Žilina
12. Geological State Institute of Dionýz Štúr, Bratislava
13. SVP Banská Štiavnica, Danube River Basin, Gabčíkovo Factory
14. SE, Inc., Water Power Station Factory, VS Gabčíkovo
15. Chamber of Surveyors and Cartographers
16. Slovak Union of Surveyors and Cartographers
17. Department of Concrete Structures and Bridges, STU Bratislava
18. GEOTEAM, Ltd., Bratislava, Authorized Distributor of Trimble
19. GEOTECH, Ltd., Bratislava, Trade Agency and Service of Leica

VI.2 International Cooperation

1. Institute of National Surveying and Engineering Geodesy, TU Vienna, Austria
2. Institute for Photogrammetry and Remote Sensing, TU Vienna, Austria
3. Department of Surveying, Cartography and Descriptive Geometry, Politechnika Lodź, Poland
4. Institute of Geodesy and Geophysics of the Hungarian Academy of Sciences, Sopron, Hungary
5. Department of Geodesy, VUT Brno, Czech Republic
6. Department of Geodesy, TU Munich, Germany
7. College of Geoinformatics, University of West Hungary, Székesfehérvár, Hungary
8. Department of Engineering Surveying, TU Dresden, Germany
9. Department of Surveying, Mining – Geological Faculty, TU Ostrava, Czech Republic
10. Palacky University of Olomouc, Department of Mathematical Analysis and Mathematical Applications, Czech Republic

VI.2.1 Visitors to the Department

1. Weber Th. – Faculty of Civil Engineering and Surveying, TU Munich, Germany, 7 days
2. Schafer Th. – Faculty of Civil Engineering and Surveying, TU Munich, Germany, 7 days
3. Neugebauer, M. – Faculty of Civil Engineering and Surveying, TU Munich, Germany, 7 days

4. Ulrich, F. – Faculty of Civil Engineering and Surveying, TU Munich, Germany, 7 days
5. Group of foreign participants of International Conference on Engineering Surveying – INGENO 2004 (from universities in Germany, Denmark, Hungary, Czech Republic, Greece, Croatia, Switzerland, Poland, Austria), 1 day

VI.2.2 Visits of Staff Members and Postgraduate Students to Foreign Institutions

1. Bartoš, P. – 20th ISPRS Congress, Istanbul, Turkey, 5 days (July 2004)
2. Fraštia, M. – 20th ISPRS Congress, Istanbul, Turkey, 5 days (July 2004)
3. Kadlečiková, V. – CERN, Geneva, Switzerland, 3 months (October – December 2004)
4. Kopáček, A. – TU Munich, Germany, 3 days (December 2004)
5. Kopáček, A. – WW FIG, Athens, Greece, 5 days (May 2004)
6. Kopáček, A. – Department of Geodesy, Faculty of Civil Engineering VUT Brno, Czech Republic, 1 day
7. Kopáček, A. – Department of Geodesy, Faculty of Civil Engineering CVUT Prague, Czech Republic, 2 day
8. Kopáček, A. – Zurrich, Germany, “Ingeniervermessung 2004” International Conference, 3 days (March 2004)
9. Kopáček, A. – Antwerp, Belgium, 3 days (September 2004)
10. Korbašová, M. – Department of Geodesy, Faculty of Civil Engineering VUT Brno, Czech Republic, 2 day (February 2004)
11. Lukáč, Š. – WW FIG, Athens, Greece, 8 days (May 2004)
12. Lukáč, Š. – Brno, Czech Republic, Actual Problems of Engineering Surveying 2004, 2 days (April 2004)
13. Lukáč, Š. – Brno, Czech Republic, 40th Geodetic Information Days, 2 days (November 2004)
14. Samuhelová, Š. – Department of Geodesy, Faculty of Civil Engineering VUT Brno, Czech Republic, 2 day (February 2004)
15. Samuhelová, Š. – 20th ISPRS Congress, Istanbul, Turkey, 5 days (July 2004)
16. Sokol, Š. – Department of Geodesy, Faculty of Civil Engineering VUT Brno, Czech Republic, 1 day
17. Staněk, V. – Department of Geodesy, Faculty of Civil Engineering CVUT Prague, Czech Republic, 2 day
18. Staněk, V. – Department of Geodesy, Faculty of Civil Engineering VUT Brno, Czech Republic, 1 day
19. Zámečnicková, M. – TU Munich, Germany, 1 month (July 2004)
20. Zámečnicková, M. – Department of Geodesy, Faculty of Civil Engineering VUT Brno, Czech Republic, 2 day (February 2004)
21. Zámečnicková, M. Zurrich, Germany, “Ingeniervermessung 2004” International Conference, 3 days (March 2004)

VII. THESES**VII.1 Graduate Theses**

No.	Student's Name	Title	Supervisor
1.	Bc. Juraj Kalivoda	Application of Digital Photogrammetry in the Renovation of an Architectural Heritage	P. Bartoš
2.	Bc. Miroslav Geľo	Redrawing the Digital Photo of a Planar Object: Possibilities, Accuracy and Exploitation	P. Bartoš
3.	Bc. Martin Hamrák	Analysis of Long-Term Measurements of Horizontal Deformations of the Ruzin Dam	P. Bartoš
4.	Bc. Viktor Kuťka	Photogrammetric Methods for Determination of Spatial Deformations	P. Bartoš
5.	Bc. Dana Babecová	Loading Test Project for a Building Structure	V. Staněk
6.	Bc. Juraj Varga	Staking Out and Inspecting a High-Rise	V. Staněk
7.	Bc. Jana Kubovčíková	Geodetic Support of the Construction of Highway Tunnels	V. Staněk
8.	Bc. Soňa Dolníková	Long-Term Stability Inspection of a Building Structure	V. Staněk
9.	Bc. Zuzana Smatanová	Progressive Trends in Staking Out Activities and Control Measurements	V. Staněk
10.	Bc. Stanislav Galko	Stability Testing of Digital Levelling Instruments	Š. Sokol
11.	Bc. Michal Považan	Automated Determination of Area Volumes	Š. Sokol
12.	Bc. Dušan Janík	Geodetic Measurements and Processing of Position Networks	Š. Sokol
13.	Bc. Martin Mačor	Stability Testing of Universal Total Stations	Š. Sokol
	Bc. Marián Rehuš	Elimination of the Systemic Effect of the Environment with a Trigonometric Determination of Difference in Altitude	Š. Sokol
	Bc. Vladimír Bulko	Deformation Monitoring of Bridges from the Point of View of Geodetic Measurements	Š. Sokol
	Bc. Ján Herško	Stability Testing of Levelling Instruments	Š. Sokol
14.	Bc. Jana Zubaľová	Problem of Deformation Measurements of Building Structures in Systems of International and Regional Normalization Bodies	A. Kopáčík
15.	Bc. Eliška Zemenčíková	Testing Rotating Laser Instruments	A. Kopáčík
16.	Bc. Pavlína Jackuliaková	Proposed Optimal Configuration of Standpoints Using Laser Terrestrial Scanners	A. Kopáčík
17.	Bc. Ján Hajabács	Time Series Analyses Acquired by Calibration of a Distance Sensor	A. Kopáčík
18.	Bc. Juraj Krajmer	Deformation Monitoring of Dynamic Strained Structures Using Universal Stations	A. Kopáčík
19.	Bc. Martin Borza	Basic Highway Map	A. Kopáčík
20.	Bc. Kristína Vachanová	Loading Tests of Bridges	G. Hostinová
21.	Bc. Matúš Fojtl	Verification and Comparison of the Accuracy of Selected Types of Levelling Instruments	G. Hostinová
22.	Bc. Marianna Fúrová	Geodetic Monitoring of Operational Highway Bridges	J. Ježko
23.	Bc. Miroslav Pokorný	Geodetic Support Through the Realisation of Underground Engineering Networks	J. Ježko

24.	Bc. Viktor Páleník	Exploitation of Non-Prism Distance Measurement Technology Using Spatial Intersection	J. Ježko
25.	Bc. Tomáš Holec	Digital Levelling Instruments and Their Exploitation by Various Illumination Intensities	J. Ježko
26.	Bc. Ľuboš Rafaj	GPS Technology in Engineering Surveying	J. Ježko
27.	Bc. Juraj Babik	Calibration of Angle-Measured Instruments	J. Ježko
28.	Bc. Martin Juskanič	Staking Out Activities by Building-up an Industrial Park	J. Ježko
29.	Bc. Ondrej Máčalka	Estimating Parameters in a Local Geodetic Network	J. Ježko

VII.2 Bachelor Theses

No.	Student's Name	Title	Supervisor
1.	Martin Pollák	Staking Out Activities of Buildings	V. Staněk
2.	Adam Demény	Stability Verification of Levelling Instruments	Š. Sokol
3.	Andrej Borza	Geodetic Monitoring of the Bridge on Kapucinska Street in Bratislava	G. Hostinová
4.	Ján Šajban	Evaluation of the Long-Term Vertical Deformation Measurements of Selected Structures at the Mochovce Nuclear Power Plant	G. Hostinová
5.	Juraj Praženka	Verification of the Accuracy of Theodolites	J. Ježko
6.	Ernest Riegl	Exploitation of GPS Manual Navigation Instruments	J. Ježko
7.	Jozef Václavík	Staking Out and Accuracy Analyses of Line Structures	M. Bajtala
8.	Tomaš Lagiň	Possibilities of Exploitation of an Electronic Tachometer for the Solution of Geodetic Tasks	M. Bajtala
9.	Libor Porubčan	Application of a Statistical Processing Model for Geodetic Measurements	M. Bajtala
10.	Peter Lužák	Geodetic Activities Based on Final Measurements of New Buildings	M. Bajtala
11.	Viera Babecová	Staking Out and Staking Out Networks of Line Structures	M. Bajtala
12.	Jozef Cesnak	Determination of Spatial Deformations Using Intersection Photogrammetry Method	M. Fraštia
13.	Martin Chudík	Determination of Spatial Deformation Using Stereo-Photogrammetry Ground Method	M. Fraštia
14.	Martina Kadlečková	Calibration of Non-Metric Digital Camera	M. Fraštia
15.	Tomáš Kubíček	Determination of 3D Coordinates of a Point by Direct Linear Transformation	M. Fraštia
16.	Peter Krumpál	Experimental Verification of the Effect of Various Sight Distances on the Value of Altitude Differences	M. Korbašová
17.	Zuzana Kadáková	Experimental Measurement of the Vertical Wall Planeness of a Building Structure	M. Korbašová
18.	Lucia Namešpetrová	Estimating the Parameter of a Positional Staking Out Network	P. Kubanka

19.	Ján Novák	Parameter Estimation of an Altitudinal Staking Out Network	P. Kubanka
20.	Michal Pastír	Staking Out Using the Free Station Method	P. Kubanka
21.	Martin Bunček	Estimation of the Parameters of the First and Second Orders of a Staking Out Network in a Traverse Shape	P. Kubanka
22.	Marek Györi	Problem of Too Short Distances in Geodesy	P. Kyrinovič
23.	Igor Kopanica	Determination of the Position of an Inaccessible Point	P. Kyrinovič
24.	Michal Pavelek	Accuracy of Distance Measurement Using a Non-Reflective Rangefinder	P. Kyrinovič
25.	Roland Hudek	Application of the Free Station Method	P. Kyrinovič
26.	Miroslav Vedel	Estimating the Parameter of a Micro-Network Using the DISTO Laser Rangefinder	P. Kyrinovič
27.	Jozef Ondrejkov	Accuracy Analysis of the Traverses of Line Structures	Š. Lukáč
28.	Milan Kavulič	Theoretical and Practical Aspects of the Exploitation of the Paralactic Method of Distance Measurement	Š. Lukáč
29.	Peter Fecík	Adjustment of Elevation Using Trigonometric Levelling	Š. Lukáč
30.	Peter Šimonič	Determination of the Position and Accuracy of Points by Intersection	M. Rojkovičová
31.	Vladimír Dzurilla	Analysis of Methods for Determining Distance	M. Rojkovičová
32.	Anton Šimončíč	Photogrammetric Documentation of an Historical Structure Using the Analytical Close Range Photogrammetry Method	A. Samuhelová
33.	Marek Petrlé	Digital Photogrammetry and Its Exploitation in the Documentation of Monuments	A. Samuhelová
34.	Janka Halíčková	Digital Single Image Photogrammetry in the Measurement of Historical Monuments	A. Samuhelová
35.	Roman Hudec	Photogrammetric Densification of a Point Field (Primary Data Acquisition from Analogue Images)	A. Samuhelová
36.	Ondrej Kovál'	Free Station Method Using Levelling	A. Villim
37.	Michal Janíček	Application of GPS Methods in Engineering Surveying	A. Villim
38.	Ján Fábian	Technical Map Creation	A. Villim
39.	Michal Havrila	Estimation of the Parameters and Accuracy Characteristics of an Altitudinal Network	A. Villim
40.	Matej Súčik	Stability of Levelling Instruments for Precise Levelling	P. Vybíral
41.	Oliver Bergl	Determination of the Position of a 3D Point	P. Vybíral
42.	Matej Zámečník	Laser Instruments in Surveying	P. Vybíral
43.	Michal Veselovský	Testing Laser Rotating Levelling Instruments	P. Vybíral
44.	Michaela Němcová	Analytical Solution to the Horizontal Parameters of a Road Axis	M. Zámečníková
45.	Gabriel Bartošek	Analytical Solution to Elevation Arcs	M. Zámečníková

VIII. OTHER ACTIVITIES

VIII.1 Special Lectures

- [1] KOPÁČIK, A. – WUNDERLICH, T. A.: Use of Laser Scanning Systems in Hydro-Technical Structures. In: FIG Working Week, Athens, Greece, 2004 (in English)
- [2] KOPÁČIK, A.: Application of the Bologna Process in Higher Geodetic Education in Slovakia. In: FIG Working Week, Athens, Greece, 2004 (in English)
- [3] LUKÁČ, Š.: Long-Term Deformation Monitoring of Structures at the Jaslovske Bohunice Nuclear Power Plant. In: Actual Problems of Engineering Surveying 2004. Brno, ČSGK 2004 (in Slovak)
- [4] ONDRIŠ, L. – LUKÁČ, Š. – RUSINA, V. – BUZÁSI, J. – KRUŠINSKÝ, D.: Optoelectronic Systems for Vertical Deformations and Tilt Measurement of Structures and Technological Equipment. In: Working Week FIG 2004. Athens, Greece, 2004 (in English)
- [5] LUKÁČ, Š. – KOŽÁR, J. – BALGOVÁ, Z. – GRÓF, V.: Measurement, Monitoring and Evaluation of Deformations of the Gabčíkovo Hydro-Power Plant. In: 40th Geodetic Information Days. Brno, SZB 2004 (in Slovak)
- [6] KORBAŠOVÁ, M.: Problems of Connecting Measurements in Surveying. In: Juniorstav 2004, 6th Special Doctoral Study Conference, Brno, 2004 (in Slovak)
- [7] SAMUHELOVÁ, A.: Using Terrestrial Photogrammetry for Documentation of Historical Buildings. In: Juniorstav 2004, 6th Special Doctoral Study Conference, Brno, 2004 (in Slovak)
- [8] KORBAŠOVÁ, M. – MAREK, J.: Connecting Measurements in Surveying and Its Problems. In: IN GEO 2004, 3rd International Conference on Engineering Surveying, Bratislava, 2004 (in English)
- [9] BAJTALA, M. – SOKOL, Š.: Estimation of Variance Components from Measurements in a Geodetic Network. In: Actual Trends in Geodesy, Cartography, Geographical Information Systems and Cadastre in the New Conditions of the European Union. Herľany, 2004 (in Slovak)
- [10] KOPÁČIK, A.: Current State of University Education in Geodesy and Cartography. In: 12th Slovak Geodetic Days, 2004 (in Slovak)
- [11] BARTOŠ, P. – FRAŠTIA, M. – SAMUHELOVÁ, A.: Information and Experience Gained from the 20th ISPRS Congress in Istanbul. In: 12th Slovak Geodetic Days, 2004 (in Slovak)
- [12] FRAŠTIA, M. - SAMUHELOVÁ, A. – BARTOŠ, P.: Technology of Photogrammetry and DPZ. In: New Technologies in Geodesy and Cartography, Piešťany 2004 (in Slovak)
- [13] JEŽKO, J. – BAJTALA, M.: Calibration of Geodetic Instruments. In: Actual Trends in Geodesy, Cartography, Geographical Information Systems and Cadastre in the New Conditions of the European Union. Herľany, 2004 (in Slovak)
- [14] KADLEČÍKOVÁ, V. – KYRINOVIČ, P.: Deformation Measurements of Dynamic Strained Constructions. In: Actual Trends in Geodesy, Cartography, Geographical Information Systems and Cadastre in the New Conditions of the European Union. Herľany, 2004 (in Slovak)

- [15] KYRINOVICĎ, P. – KOPÁČIK, A.: Monitoring a Building Structure with Tilt Sensors. In: Actual Trends in Geodesy, Cartography, Geographical Information Systems and Cadastre in the New Conditions of the European Union. Herľany, 2004 (in Slovak)
- [16] SOKOL, Š. – JEŽKO, J.: Elimination of the Possibilities of the Effect of Refraction on Trigonometric Height Measurements. In: Actual Trends in Geodesy, Cartography, Geographical Information Systems and Cadastre in the New Conditions of the European Union. Herľany, 2004 (in Slovak)
- [17] ZÁMEČNÍKOVÁ, M. – KOPÁČIK, A.: Gate Deformation Measurements of the Locks of the Gabčíkovo Hydro-Power Plant Using Laser Scanning Technology. In: Actual Trends in Geodesy, Cartography, Geographical Information Systems and Cadastre in the New Conditions of the European Union. Herľany, 2004 (in Slovak)
- [18] KORBAŠOVÁ, M. – KOPÁČIK, A.: The First Suggestions for the Optimal Configuration of Standpoints Using Laser Terrestrial Scanners. In: Actual Trends in Geodesy, Cartography, Geographical Information Systems and Cadastre in the New Conditions of the European Union. Herľany, 2004 (in Slovak)
- [19] KOPÁČIK, A.: Laser Technologies. In: New Technologies in Geodesy and Cartography, Piešťany 2004 (in Slovak)
- [20] LUKÁČ, Š. – KOŽÁR, J.: Universal Measurement Stations in Current Practice. In: New Technologies in Geodesy and Cartography, Piešťany 2004 (in Slovak)
- [21] LUKÁČ, Š. – ŽÁK, M.: Levelling Instruments in Current Practice. In: New Technologies in Geodesy and Cartography, Piešťany 2004 (in Slovak)
- [22] LUKÁČ, Š. – ONDRIŠ, Ľ. – RUSINA, V. – BUZÁSI, J.: Hydrostatic and Pendametric Measurement Systems of the Institute of Measurement of the Slovak Academy of Sciences and Their Exploitation in Practice. In: New Technologies in Geodesy and Cartography, Piešťany 2004 (in Slovak)
- [23] ZÁMEČNÍKOVÁ, M.: Terrestrial Laser Systems. In: Juniorstav 2004, 6th Special Doctoral Study Conference, Brno, 2004 (in Slovak)
- [24] ROJKOVIČOVÁ, M.: Geodetic Monitoring of Bridge Structures. In: Juniorstav 2004, 6th Special Doctoral Study Conference, Brno, 2004 (in Slovak)

VIII.2 Commercial Activities for Firms and Institutions

1. Special geodetic activities in the reconstruction of dilatation No.3 and pillar on the Bratislava side of the Prístavný Bridge
2. Highway Bridges – Measuring Displacements and Deformations (Východná, Jánošíkova studnička)
3. Staking Out Network of the Sitiny Tunnel in Bratislava
4. Project of Long-Term Geodetic Measurements of the Branisko Highway Tunnel
5. Project of Long-Term Geodetic Measurements of the D1-201 Highway Bridge at the Behárovce – Branisko Highway Section
6. Project of Long-Term Geodetic Measurements of the D1-202 Highway Bridge at the Behárovce – Branisko Highway Section
7. Project of Long-Term Geodetic Measurements of the D1-203 Highway Bridge at the Behárovce – Branisko Highway Section
8. Project of Long-Term Geodetic Measurements of the D1-211 and D1-212 Highway Bridge at the Behárovce – Branisko Highway Section

9. Project of Long-Term Geodetic Measurements of the D1-202 Highway Bridge at the Branisko - Široké Highway Section
10. Project of Long-Term Geodetic Measurements of the D1-204 Highway Bridge at the Branisko - Široké Highway Section
11. Project of Long-Term Geodetic Measurements of the D1-205 Highway Bridge at the Branisko - Široké Highway Section
12. Project of Long-Term Geodetic Measurements of the D1-207 Highway Bridge at the Branisko - Široké Highway Section
13. Project of Long-Term Geodetic Measurements of the D1-208 Highway Bridge at the Branisko - Široké Highway Section
14. Project of Long-Term Geodetic Measurements of the D1-209 Highway Bridge at the Branisko - Široké Highway Section
15. Project of Long-Term Geodetic Measurements of the D1-210 Highway Bridge at the Branisko - Široké Highway Section
16. Project of Long-Term Geodetic Measurements of the D1-211 Highway Bridge at the Branisko - Široké Highway Section
17. Stability Monitoring of a Plague Pillar for the Metropolitan Office in Kremnica
18. Project – Partial Monitoring System of the Geological Aspects of the Environment in the Slovak Republic in Cooperation with the Geological State Institute of Dionýz Štúr in Bratislava (Harmanec, Ducové, Banská Štiavnica, Demjata)
19. Measuring activities for a specific map and its valuation – Matador Bratislava
20. Hypsometric inspection of elevations of selected points at Faurecia Automotive Slovakia - Hlohovec

VIII.3 Conferences and Workshops Organised

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2. 12th Slovak Geodetic Days (November 4-5, 2004, Bratislava)
3. IN GEO 2004 - 3rd International Conference on Engineering Surveying (November 11-13, 2004, Bratislava)
4. Slovak Union of Surveyors - New Technologies in Geodesy and Cartography, Piešťany, 2004

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