

<b>DEPARTMENT OF SURVEYING</b>
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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 signalized 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 and one special Trimble DiNi 12 precision levelling instrument and 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	3 - 2	A. Kopáček
Industrial Surveying	9	2 - 3	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	2 - 3	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. 1/8332/01: Integrated Measurement Systems of Data Collection and Data Processing for the Creation of Deformation Models of Building Structures and Rock Environments (2001-2003, P. Bartoš)
2. Research grant registration No. 1/8330/01: Geodetic Technologies Supporting Data Collection for the Creation of Cinematic Models of Building Constructions (2001-2002, A. Kopáček)

## 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 Normalisation, 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 Lodž, 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 Olomouc, Department of Mathematical Analysis and Mathematical Applications, Czech Republic

#### VI.2.1 Visitors to the Department

1. Breithaupt H. – Breithaupt and Sohn Co., Germany, 1 day
2. Breznikar A. – Faculty of Civil and Geodetic Engineering, Department of Geodesy, Slovenia, 3 days
3. Bureš J. – Department of Geodesy, Faculty of Civil Engineering, Czech Republic, 4 days
4. Hanzl V. – Department of Geodesy, Faculty of Civil Engineering, Czech Republic, 4 days
5. Koler B. – Faculty of Civil and Geodetic Engineering, Department of Geodesy, Slovenia, 3 days

6. Mentés G. – Geodetic and Geophysical Research Institute of the Hungarian Academy of Sciences, Hungary, 3 days
7. Novák J. – Department of Geodesy, Faculty of Civil Engineering, Czech Republic, 3 days
8. Švábenský O. – Department of Geodesy, Faculty of Civil Engineering, Czech Republic, 3 days
9. Valentová M. – Faculty of Civil Engineering, CTU Prague, Czech Republic, 3 days
10. Weigel J. – Department of Geodesy, Faculty of Civil Engineering, Czech Republic, 3 days
11. Vitásek J. – Department of Geodesy, Faculty of Civil Engineering, Czech Republic, 3 days
12. Vobořilová P. – Faculty of Civil Engineering, CTU Prague, Czech Republic, 3 days
13. Witte B. – Surveying Institute, Department of Agricultural Engineering, Germany, 3 days
14. Wolski B. – Cracow University of Technology, Politechnika Krakowska, Poland, 3 days
15. Wunderlich Th. – Faculty of Civil Engineering and Surveying, Technical University Munich, Germany, 3 days

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

1. Bartoš, P. – Department of Surveying, Mining – Geological Faculty, TU Ostrava, Czech Republic, 3 days (September 2002)
2. Bartoš, P. – Geosystem Vinica, Ukraine (May 2002)
3. Fraštia, M. – Department of Surveying, Mining – Geological Faculty, TU Ostrava, Czech Republic, 3 days (September 2002)
4. Korbašová, M. – Department of Mathematical Analysis and Mathematical Applications, Palacky University, Olomouc, Czech Republic, 2 weeks (June 2002)
5. Kopáček, A. – Department of Geodesy, Faculty of Civil Engineering VUT Brno, Czech Republic, 2 days (February 2002)
6. Kopáček, A. – WW FIG, Washington D.C., USA, 8 days (April 2002)
7. Kopáček, A. – Department of Geodesy, Faculty of Civil Engineering VUT Brno, Czech Republic, 1 day (June 2002)
8. Kopáček, A. – Department of Surveying, Mining – Geological Faculty, TU Ostrava, Czech Republic, 3 days (September 2002)
9. Kopáček, A. – EEGECS Socrates Project, TU Valencia, Spain, 5 days (December 2002)
10. Kubanka, P. – ANGERMEIER INGENIEURE GmbH, Giebelstadt, Germany, 1 year (2002)
11. Kyrinovič, P. – Department of Surveying, Mining – Geological Faculty, TU Ostrava, Czech Republic, 3 days (September 2002)
12. Lukáč, Š. – WW FIG, Washington D.C., USA, 8 days (April 2002)
13. Sokol, Š. – Department of Geodesy, Faculty of Civil Engineering VUT Brno, Czech Republic, 1 day (February 2002)
14. Sokol, Š. – Department of Surveying, Mining – Geological Faculty, TU Ostrava, Czech Republic, 3 days (September 2002)
15. Staněk, S. – Department of Geodesy, Faculty of Civil Engineering VUT Brno, Czech Republic, 1 day (February 2002)
16. Staněk, S. – Department of Surveying, Mining – Geological Faculty, TU Ostrava, Czech Republic, 3 days (September 2002)

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

No.	Student's Name	Title	Supervisor
1.	Bachledová Lucia	Processing and Analyzing Geodetic Deformation Measurements of Waterworks	V. Staněk
2.	Blaško Marek	Calibration of OPEMUS CCD Camera	P. Bartoš
3.	Budovičová Janka	3D Solutions in Engineering Surveying Using GPS and Terrestrial Measured Data	V. Staněk
4.	Cigán Michal	Stability Testing of Electronic Instruments for Angle Measurements	Š. Sokol
5.	Čanigová Iveta	Exploitation of GPS Methods by Building Spatial Networks	J. Ježko
6.	Fekete Erik	Exploitation of Near Photogrammetry for Reconstruction Design of the Foundation of Devin Castle	V. Gregor
7.	Fusek Ján	Application of Digital Photogrammetry for the Renovation of Architectural Heritage	P. Bartoš
8.	Galbavá Petra	Optimal Suggestion for Measuring Plan for a Tunnel Staking Out Network	A. Kopáčik
9.	Gašparovič Michal	Design for ZB GIS Creation	P. Bartoš
10.	Hazucha Juraj	Exploitation of Robotic Total Stations in Surveying	Š. Sokol
11.	Hubočáni Miroslav	Digital Redrawing of 2D Object	P. Bartoš
12.	Hutirová Lubomíra	Geodetic Activities at the Waterworks Building	J. Ježko
13.	Kohútová Danka	Measurements and Documentation of Tunnel Deformation	V. Staněk
14.	Kovářová Katarína	Staking Out and Documentation of Underground Engineering Networks	G. Hostinová
15.	Kubica Marek	Geodetic Activities in the Building of Underground Telecommunications Networks	J. Ježko
16.	Lekýr Martin	Accuracy Inspection of Levelling Instruments for Precise Levelling	J. Ježko
17.	Leskovjanský Dušan	Efficient Determination of Refraction Coefficient for Levelling and Terrestrial Distance Measurement	Š. Sokol
18.	Leštáková Jana	Long-Term Deformation Measurement of Highway Structures	G. Hostinová
19.	Lettrich Andrej	Problem of Measuring and Adjustment of 2D Geodetic Networks	Š. Sokol
20.	Linduška Marián	Calibration of UMK 10 Universal Measuring Camera	P. Bartoš
21.	Lydik Dušan	Exploitation of GPS Technology for Determination of High Building Deformations	Š. Sokol
22.	Martinkovičová Monika	Loading Tests of Bridges	G. Hostinová
23.	Meszároš Milan	Application of the Free Station Principle for a Levelling Method	A. Kopáčik

24.	Mikulič Matej	Calibration of the Trimble DiNi 12T Digital Levelling Instrument	A. Kopáček
25.	Mikušová Martina	Long-Term Deformation Measurements of Selected Structures of the Mochovce Power Plant	G. Hostinová
26.	Mocko Svetozár	Stability Monitoring of Selected Buildings of a Power Plant	J. Ježko
27.	Mokriš Tomáš	Elimination of Systematic Effects in the Levelling Data Caused by a Temperature Gradient	Š. Sokol
28.	Packo Jozef	Long-Term Stability Monitoring of Bridges	J. Ježko
29.	Petrle Michal	Geodetic Activities in the Building of a Steel Tank for Oil	G. Hostinová
30.	Pročka Ján	Stability Testing of a Digital Levelling Instrument	Š. Sokol
31.	Revaj Jozef	Evaluation of Utility Parameters of Non-Reflecting Rangefinders	A. Kopáček
32.	Rovenská Lenka	Structural Loading Tests	V. Staněk
33.	Sakmár Štefan	Inspection of a Digital Levelling Instrument and Code Levelling Rods	G. Hostinová
34.	Samuhelová Alexandra	Measurement of Facade of an Ancient Church by Analytical Near Photogrammetry	V. Gregor
35.	Straka Michal	Geodetic Activities in Buildings with Spatial Composition	V. Staněk
36.	Szalaiová Henrieta	Spatial Design of a Road	V. Staněk
37.	Šereda Tomáš	Testing Instruments for Area Measurements	Š. Sokol
38.	Tomašovič Michal	Comparison of Utility Parameters of Graphic Editors in Connection with the Creation of a Base Factory Map	A. Kopáček
39.	Valluš Michal	Inspection of Geometric Parameters of Rotary Laser Instruments	A. Kopáček
40.	Vandlík Roman	Geodetic Monitoring of Waterworks	V. Staněk
41.	Vaško Juraj	Documentation of Underground Engineering Networks	J. Ježko
42.	Vidiečanová Monika	Applications of Trigonometric Determination of Heights in Engineering Surveying	V. Staněk
43.	Zámečníková Miriam	Analysis of a Local Position Geodetic Network	A. Kopáček

## VIII. OTHER ACTIVITIES

### VIII.1 Special Lectures

BARTOŠ, P.: Photogrammetric Data Acquisition Concept for ZB GIS.

In: Interdisciplinary Application of Photogrammetry and Engineering Surveying. Bratislava, Faculty of Civil Engineering SUT Bratislava, 2002, pp. 81-86, ISBN 80-227-1778-9 (in Slovak)

BARTOŠ, P.: Photogrammetry in Building Construction. In: Task Activity of Licensed Surveyors and Cartographers. Bratislava 2002, SUT Bratislava, pp. 9 (in Slovak)

ČERYOVÁ, I. – KUBANKA, P. – KOPÁČIK, A. – KYRINOVÍČ, P.: Dynamic Test of Robot Stations. In: 22d World Congress of FIG, Commission 6, Washington DC 2002, CD ROM Edition, ISBN 1-57083-066-5 (in English)

ČERYOVÁ, I. – KUBANKA, P. – KOPÁČIK, A.: Results of Automated Measuring Station Testing. In: INGENEO 2002. Proceedings of Second International Conference of Engineering Surveying. Bratislava, Faculty of Civil Engineering SUT Bratislava, 2002, pp. 179-186, ISBN 80-227-1792-4 (in English)

- FRAŠTIA, M. – BARTOŠ, P.: Photogrammetric Monitoring of Geodynamic Deformations of Rock Cuttings and Cliffs. In: Proceedings of Conference on Geodesy and Cartography in Transportation. Ostrava, Czech Union of Surveyors and Cartographers, Slovak Union of Surveyors, 2002, pp. 189-196 (in Slovak)
- FRAŠTIA, M.: Camera Calibration in Close-Range Photogrammetry. In: INGENEO 2002. Proceedings of Second International Conference of Engineering Surveying. Bratislava, Faculty of Civil Engineering SUT Bratislava, 2002, pp. 121-128, ISBN 80-227-1792-4 (in English)
- FRAŠTIA, M.: Direct Linear Transformation. In: Interdisciplinary Application of Photogrammetry and Engineering Surveying. Bratislava, Faculty of Civil Engineering SUT Bratislava, 2002, pp. 21-25, ISBN 80-227-1778-9 (in Slovak)
- Ježko, J. – SOKOL, Š. –BAJTALA, M.: Exploitation of Non-Prismatic Measurement Systems. In: Interdisciplinary Application of Photogrammetry and Engineering Surveying. Bratislava, Faculty of Civil Engineering SUT Bratislava, 2002, pp. 27-32, ISBN 80-227-1778-9 (in Slovak)
- Ježko, J. – SOKOL, Š.: History of Measurement and Instrument Techniques. In: Proceedings of Conference on 240 Years of Technical Universities in the Slovak Republic. Bratislava, Faculty of Civil Engineering SUT Bratislava, 2002, pp. 81-90, ISBN 80-227-1778-2 (in Slovak)
- JEŽKO, J. – MOKROŠ, J. – PACKO, J.: Knowledge Gained from the Calibration of Horizontal Circles of Geodetic Instruments. In: INGENEO 2002. Proceedings of Second International Conference of Engineering Surveying. Bratislava, Faculty of Civil Engineering SUT Bratislava, 2002, pp. 187-196, ISBN 80-227-1792-4 (in English)
- KOPÁČIK, A.: Global Changes in Education in Geodesy and Cartography. In: Proceedings of the Conference on 240 Years of Technical Universities in the Slovak Republic. Bratislava, Faculty of Civil Engineering SUT Bratislava, 2002, pp. 11-17, ISBN 80-227-1778-2 (in Slovak)
- KOPÁČIK, A.: Exploitation of Inertial Measurement Systems in Transportation. In: Proceedings of Conference on Geodesy and Cartography in Transportation. Ostrava, Czech Union of Surveyors and Cartographers, Slovak Union of Surveyors, 2002, pp. 231-240 (in Slovak)
- KOPÁČIK, A.: Modern Surveying Education in the Slovak Republic. In: 22d World Congress of FIG, Commission 2, Washington DC 2002, CD ROM Edition, ISBN 1-57083-066-5 (in English)
- KOPÁČIK, A.: Norm Creation in Geodesy, Cartography and Cadastre Sector in the Slovak Republic. 7th International Polish-Czech-Slovak Geodetic Days, Polanica Zdroj 2002, 4 pp (in Slovak)
- KOPÁČIK, A.: Presentation of Slovak Participants at the 12th FIG Congress 2002 in Washington D.C., USA and Plenary Assembly of FIG. 10<sup>th</sup> Slovak Geodetic Days, Bratislava 2002 (in Slovak)
- KOPÁČIK, A.: Preliminary Course for Chamber of Surveyors and Cartographers, Bratislava 2002 (in Slovak)
- KORBAŠOVÁ, M.: Statistical Problems of Connecting Measurements in Surveying. In: INGENEO 2002. Proceedings of Second International Conference of Engineering Surveying. Bratislava, Faculty of Civil Engineering SUT Bratislava, 2002, pp. 37-42, ISBN 80-227-1792-4 (in English)
- KORBAŠOVÁ, M. – ROJKOVIČOVÁ, M.: CCD Sensors and Their Exploitation in Engineering Surveying. In: Interdisciplinary Application of Photogrammetry and Engineering Surveying. Bratislava, Faculty of Civil Engineering SUT Bratislava, 2002, pp. 81-86, ISBN 80-227-1778-9 (in Slovak)
- KUBANKA, P.: Mathematical Statistics in the Theory of Processing Measurements in Geodesy and Cartography. In: PRASTAN-STAKAN 2002. Proceedings of International Conference on Statistics and Probability, 2002, 8 pp. (in Slovak)
- KYRINOVIČ, P.: Measurement System for Automated Crane Measurement. In: INGENEO 2002. Proceedings of Second International Conference of Engineering Surveying. Bratislava, Faculty of Civil Engineering SUT Bratislava, 2002, pp. 205-212, ISBN 80-227-1792-4 (in English)
- KYRINOVIČ, P. – KUBANKA, P. – ČERYOVÁ, I. – VYBÍRAL, P.: Long-Term Measurements of Highway Bridges. In: Proceedings of Conference on Geodesy and Cartography in Transportation. Ostrava, Czech Union of Surveyors and Cartographers, Slovak Union of Surveyors, 2002, pp. 57-62 (in Slovak)
- [1] LUKÁČ, Š.: Photogrammetry and Remote Sensing at the 22d FIG Congress in Washington. In: Interdisciplinary Application of Photogrammetry and Engineering



- Surveying. Bratislava, Faculty of Civil Engineering SUT Bratislava, 2002, pp. 51-56, ISBN 80-227-1778-9 (in Slovak)
- [2] LUKÁČ, Š.: Evaluation of Measurement Data and Interpretation of Results from Deformation Measurements of Large Waterworks. In: 28th Dam Days 2002, Bratislava, SPV-SVS 2002, pp. 210-217 (in Slovak)
- [3] LUKÁČ, Š.: FIG, ISPRS and ICA in System of International Non-Governmental Organisations. In: 10th Slovak Geodetic Days, Bratislava, Chamber of Surveyors and Cartographers, 2002, pp. 117-126 (in Slovak)
- [4] LUKÁČ, Š. – KOŽÁR, J.: Deformation Monitoring of Gabčíkovo Dam Structures by Terrestrial Surveying and GPS Methods. In: 22d World Congress of FIG, Commission 6, Washington DC 2002, CD ROM Edition, ISBN 1-57083-066-5 (in English)
- [5] LUKÁČ, Š. – MACEJ, I.: Historical Development of Mining Maps. In: Proceedings of Conference on 240 Years of Technical Universities in the Slovak Republic. Bratislava, Faculty of Civil Engineering SUT Bratislava, 2002, pp. 63-70, ISBN 80-227-1778-2 (in Slovak)
- [6] LUKÁČ, Š. – MIKULIČ, M.: Calibration of Trimble DiNi 12T Digital Levelling Instrument. In: 38th Geodetic Information Days. Brno, Czech Union of Surveyors and Cartographers, 2002, pp. 113-118 (in Slovak)
- [7] LUKÁČ, Š. – ŽÁK, M.: Deformation Monitoring of Selected Structures at Jaslovské Bohunice Nuclear Power Plant. In: INGENEO 2002. Proceedings of Second International Conference of Engineering Surveying. Bratislava, Faculty of Civil Engineering SUT Bratislava, 2002, pp. 53-60, ISBN 80-227-1792-4 (in English)
- [8] LUKÁČ, Š. – ŽÁK, M.: Geodetic Quality Inspection of New Highway Bridges in the Slovak Republic. In: Proceedings of Conference on Geodesy and Cartography in Transportation. Ostrava, Czech Union of Surveyors and Cartographers, Slovak Union of Surveyors, 2002, pp. 75-81 (in Slovak)
- [9] PISCA, P. – KOPÁČIK, A.: Test of CCD Camera Vision Model Used for Deformation Measurement. In: INGENEO 2002. Proceedings of Second International Conference of Engineering Surveying. Bratislava, Faculty of Civil Engineering SUT Bratislava, 2002, pp. 159-164, ISBN 80-227-1792-4 (in English)
- [10] SOKOL, Š. – BAJTALA, M. – JEŽKO, J.: Bridge Monitoring Using Geodetic Methods. In: INGENEO 2002. Proceedings of Second International Conference of Engineering Surveying. Bratislava, Faculty of Civil Engineering SUT Bratislava, 2002, pp. 95-103, ISBN 80-227-1792-4 (in English)
- [11] SOKOL, Š. – BAJTALA, M. – JEŽKO, J. – ROJKOVIČOVÁ, M.: Digital Map of Bratislava. In: Interdisciplinary Application of Photogrammetry and Engineering Surveying. Bratislava, Faculty of Civil Engineering SUT Bratislava, 2002, pp. 87-92, ISBN 80-227-1778-9 (in Slovak)
- [12] SOKOL, Š. – JEŽKO, J. – BAJTALA, M.: Exploitation of Polar Method by Horizontal Deformation Monitoring of Bridges. In: Proceedings of Conference on Geodesy and Cartography in Transportation. Ostrava, Czech Union of Surveyors and Cartographers, Slovak Union of Surveyors, 2002, pp. 99-106 (in Slovak)
- [13] STANĚK, V. – KOPÁČIK, A. – HOSTINOVÁ, G. – KORBAŠOVÁ, M.: Geodetic Measurements in the Building of Highway Tunnels. In: Proceedings of Conference

on Geodesy and Cartography in Transportation. Ostrava, Czech Union of Surveyors and Cartographers, Slovak Union of Surveyors, 2002, pp. 63-68 (in Slovak)

- [14] STANĚK, V. – KORČÁK, P. – ŠIFRA, J.: Staking Out Network for Košická-Bratislava Bridge. In: Proceedings of Conference on Geodesy and Cartography in Transportation. Ostrava, Czech Union of Surveyors and Cartographers, Slovak Union of Surveyors, 2002, pp. 83-90 (in Slovak)
- [15] STANĚK, V. – KOPÁČIK, A.: Accuracy of Measuring Activities in Engineering Surveying. Special Seminar, Trenčín 2002 (in Slovak)

### VIII.2 Commercial Activities for Firms and Institutions

1. Expert Geodetic Activities in Building of Višňové Tunnel
2. Measuring Horizontal Displacements of Structures of the Ružín Dam
3. Highway Bridges – Measuring Displacements and Deformations (Liptovský Peter, Hybica, Prístavný most)
4. Special Geodetic Measurements of Vertical Displacements of Observed Points at Ružina, Môťová and Mýtna Waterworks
5. Control Measurements of Geometric Parameters of the Old Bridge in Bratislava
6. Technical Regulations for Creation, Renovation and Maintenance of Highway Base Map
7. Long-Term Monitoring of Displacements and State of Tension of the I-96 Girders on the Bridge over the Flooding Area of Váh D61 Nové Mesto nad Váhom – Chochoľná
8. Measurement and Evaluation of the Vertical Displacements of the Zemplínska Šírava Dam
9. Realisation and Processing of the Thirtieth Stage Measurement of 3-D Deformations of the Bukovec 2 Dam
10. Geodetic and Photogrammetric Control Measurements of the Krupina Dam
11. Photogrammetric Monitoring of the Stability of Rhyolite Rock at Vyhne
12. Photogrammetric Monitoring of the Stability of the Cliff at Harmanec, Ducové, Banská Štiavnica, Demjata

### VIII.3 Conferences and Workshops Organised

1. Special Seminar on Interdisciplinary Applications of Photogrammetry and Engineering Surveying (October 2002, Bratislava)
2. The 2d International Scientific Conference of Engineering Surveying INGENEO 2002 (November 11-13, 2002, Bratislava)

## IX. PUBLICATIONS

### IX.1 Journals

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- [5] FRAŠTIA, M. – BARTOŠ, P.: Photogrammetric Monitoring of Geodynamic Deformations of Rock Cuttings and Cliffs. In: *Proceedings of the Conference on Geodesy and Cartography in Transportation*. Ostrava, Czech Union of Surveyors and Cartographers, Slovak Union of Surveyors, 2002, pp. 189-196 (in Slovak)
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