

<b>DEPARTMENT OF STRUCTURAL MECHANICS</b>
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## I. STAFF

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## II. EQUIPMENT

### II.1 Teaching and Research Laboratories

Small laboratory for experimental mechanics

### II.2 Special Measuring Instruments and Computers

22 PCs connected to a local network  
 Static/dynamic tensometric equipment  
 Photoelasticimeter  
 Helium-neon laser  
 Memory-oscilloscope for analysis of dynamic processes

## III. TEACHING

### III.1 Graduate Study

#### Architecture and Civil Engineering

Subjects	Semester	Hours Per Week		Lecturer
		Lectures	Seminars	
Statics	2	2	2	P. Roško J. Sumec
Theory of Elasticity	3	3	3	J. Dický J. Ravinger
Structural Mechanics	4	3	2	N. Jendželovský J. Králik
Building Analysis	6	2	2	P. Roško
Elasticity Theory	7	2	2	J. Sumec
Numerical Method in Structural Mechanics	7	2	2	J. Králik
Structural Dynamics	7	2	2	M. Sokol
Plate and Spatial Structures	8	2	2	J. Králik
Non-Linear Mechanics	9	2	2	J. Lovíšek
Interaction of Structures and Foundations	9	2	2	N. Jendželovský
Special Problems in Dynamics and Statics	10	2	2	J. Ravinger

#### Engineering Construction

Subjects	Semester	Hours Per Week		Lecturer
		Lectures	Seminars	
Statics	2	3	3	M. Sokol Y. Koleková
Structural Mechanics I	3	3	3	P. Marton J. Dický
Theory of Elasticity I	4	3	2	Y. Koleková J. Dický
Theory of Elasticity II	5	3	2	J. Ravinger
Structural Mechanics II	6	3	2	P. Roško

Structural Dynamics	7	3 - 2	P. Marton
Structural Mechanics (In English)	7	2 - 2	J. Dický, O. Hubová

### Optional Subjects

Subjects	Semester	Hours Per Week		Lecturer
		Lectures	Seminars	
Stability of Structures	8	2 - 2		J. Ravinger
Plasticity Analysis of Structures	9	2 - 2		J. Králik
Seismic Engineering	10	2 - 2		J. Králik

### Recommended Subjects

Subjects	Semester	Hours Per Week		Lecturer
		Lectures	Seminars	
Use of Computers in Civil Engineering	5	2 - 2		M. Sokol
Structural Modelling Using FEM	6	2 - 2		J. Ravinger
Automation in the Statics of Structures	7	2 - 2		J. Králik
Structural Modelling in Statics and Dynamics	7	2 - 2		P. Roško
CAD in the Design of Structures	7	0 - 2		Ľ. Prekop
Automation in Structural Dynamics	8	2 - 2		J. Králik
Practice in Structural Dynamics	8	2 - 2		P. Roško
Viscoelasticity of Structural Systems	8	2 - 2		J. Sumec
Automation in Non-Linear Structural Analysis	9	2 - 2		J. Ravinger
Modelling Subgrades	9	2 - 2		N. Jendželovský

### III.2 Postgraduate Study

Selected Aspects of Structural Mechanics  
 Selected Aspects of Applied Mathematics  
 Selected Aspects of Applied Physics  
 Planar and Spatial Structures  
 Mechanics of Bodies from Composite Materials  
 Finite Element Methods  
 Stability of Truss and Planar Structures  
 Structural Dynamics  
 Optimization of Structures

## IV. RESEARCH TARGETS

The research activities of the Department are aimed at problems such as the spatial effects of monolithic and assembled girders, grates, and plates on elastic foundations; safety and reliability of nuclear power plant buildings under seismic, explosive and impact loads; seismology – the behaviour of building structures in seismic regions; the optimal design of multi-layered two-dimensional structures under static and dynamic loads; limiting the strain and collapse of structures; static and dynamic analyses of post-buckling behaviour of thin-walled structures; using dynamic post-buckling effects for non-destructive testing of thin-walled structures; singular perturbations in optimal control problems applied to non-linear structural

analysis; mechanical response of the intervertebral disc in pathological curvature of the spine; and development of computer methods in static, dynamic and non-linear structural analyses.

## V. RESEARCH PROJECTS

### VEGA, KEGA

1. Optimal Design of Structures under Static and Dynamic Loads with Respect to Nonlinear Attributes of Materials (2000-2002, J. DICKÝ, VEGA 1/7113/20)
2. Non-Linear Analysis of Interaction Between Civil Construction and Subsoil (2002 - 2004, N. JENDZELOVSKY, VEGA 1/9058/02)
3. Dynamic Structural-Soil Interaction Solution with Non-Linear Parameters. Upgraded Safety and Reliability of Nuclear Power Plant Buildings under Extreme Loads. Seismic Resistant Analysis of Nuclear Power Plant Buildings. Slovak Grant Agency Research Grant (2002-2004, J. KRALIK, VEGA 1/9355/02)
4. Non-Linear Problems of Dynamic Responses of Building Structures (2002-2004, M. SOKOL, VEGA 1/9360/02)
5. Effective Analysis of Structures with Seismic Loading - Optimization of Numerical Models (2001 - 2003, P. ROSKO, VEGA 1/8326/01)
6. Dynamic Post-Buckling Behaviour of Thin-Walled Structures (2002-2004, J. RAVINGER, VEGA 1/9059/02)
7. Stress-Deformation Analysis of the Human Spine with Regard to Pathological Changes (2002-2004, J. SUMEC, VEGA 1/9361/02)
8. DICKÝ, J. - MISTRÍKOVÁ, Z.: Elasticity and Plasticity in Civil Engineering. Academic Textbook. (KEGA 3/004/02)

### TEMPUS, SOCRATES

1. DICKÝ, J.: Socrates – Erasmus Thematic Network Project: European Civil Engineering Education and Training (EUCEET). Faculty Coordinator
2. SOKOL, M.: International Ruhr UNI Bochum exchange cooperation with TU Bratislava, Faculty Coordinator (Socrates)
3. SOKOL, M.: Grant obtained for attendance at Ruhr UNI Bochum in 2002

## VI. COOPERATION

### VI.1 Cooperation in Slovakia

1. Institute of Construction and Architecture of the Slovak Academy of Science
2. Technical University of Košice
3. University of Žilina
4. Slovak Society of Mechanics
5. VUJE, Trnava
6. VUEZ Levice
7. Building Testing and Research Institute, n. p. o. Bratislava
8. Dopravoprojekt Bratislava
9. Geoconsult Bratislava
10. Nuclear Power Plants, Jaslovské Bohunice
11. ALLMEDIA spol.s.r.o.

12. OBO BETTERMANN, Bratislava

## **VI.2 International Cooperation**

1. Civil Engineering Institute of the Polish Academy of Science, Poland
2. Technical University of Opole, Poland
3. Technical University of Gliwice, Poland
4. Technical University of Cracow, Poland
5. Fakultät der Bauingenieurwesen Ruhr-Universität, Bochum, Germany
6. Bundesforschung und Prufzentrum, Arsenal, Vienna, Austria
7. Czech Academy of Sciences, Prague, Czech Republic
8. Technical University of Ostrava, Czech Republic
9. Brno University of Technology, Czech Republic
10. Czech Technical University in Prague, Czech Republic
11. Budapest University of Technology and Economics, Budapest, Hungary

### **VI.2.1 Visitors to the Department**

1. Assoc Prof. Andrzej Wawrzynek - Silesian University of Technology, Gliwice
2. Dr. Zbigniew Lipski - Silesian University of Technology, Gliwice
3. Dr. Ryszard Walentyński - Silesian University of Technology, Gliwice
4. Dr. J. Pilsniak - Silesian University of Technology, Gliwice
5. Dr. Jan Fedorowicz - Silesian University of Technology, Gliwice
6. Dr. Lidia Fedorowicz- Silesian University of Technology, Gliwice
7. Dr. Stanislaw Kempny - Silesian University of Technology, Gliwice
8. Dr. Michal Matheja - Silesian University of Technology, Gliwice
9. Prof. Jan Kubik - University of Opole
10. Assoc Prof. József Györgyi - Budapest University of Technology and Economics
11. Prof. Péter Lenkei - Pécs University
12. Prof. Victor Gioncu - Technical University of Timisoara
13. Ass. Prof. Mihnea Truta - Technical University of Timisoara
14. Ass. Prof. Marius Mosoara - Technical University of Timisoara
15. Assoc. Prof. Stanislaw Majewski - Silesian University of Technology, Gliwice
16. Szojda Leszek PhD, Eng.- Silesian University of Technology, Gliwice
17. Wandzik Grzegorz PhD, Eng.- Silesian University of Technology, Gliwice
18. Prof. Pavel Marek - Czech Academy of Science, Prague

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

1. J. Dický – Technical University, Madrid, Spain, May 2002
2. J. Dický – Silesian University of Technology, Gliwice, Poland June 2002
3. J. Dický – Technical University, Munich, Germany, September 2002
4. T. Javorek – Klokner Institute in Prague, Czech Republic, October 2002
5. J. Lovíšek - Carl University in Prague, Czech Republic
6. J. Lovíšek – Institute of Mathematics, Academy of Sciences of the Czech Republic
7. I. Koleková - Ruhr University, Bochum, Germany, October 2002
8. M. Sokol - Ruhr University, Bochum, Germany, May 2002

## VII. THESES

### VII.1 Graduate Theses

No.	Student's name	Title	Supervisor
1.	Baška Ján	Dynamic Analysis of Bracing System of the Administrative Building in Mochovce	J. Králik
2.	Bekö Adrián	Studies on the Numerical Modelling of Particle Board	G. Mesche
3.	Bondor Pavol	Analysis of Seismic Resistance of the Hotel - Phantasia Land	J. Králik
4.	Illes Milan	Static Analysis of Music Hall with Circular Ground Plan	N. Jendželovský
5.	Pet'ko Peter	Static Analysis of Cinema Hall in the Multiplex Cinema Building	N. Jendželovský
6.	Ponek Tibor	Dynamic Analysis of an Airport Tower -Bearing System	J. Králik
7.	Tupý Tomáš	Static and Dynamic Analysis of an Office Building	N. Jendželovský

### VII.2 Doctoral Theses

No.	Student's name	Title	Supervisor
1.	Fajna Pavol	Soil-Structure Interaction Problem Based on Characteristics of Non-Linear Material during Seismic Action	J. Králik
2.	Javorek Tomáš	Non-Linear Problems of Arches and Shell Structures	J. Králik
3.	Kleiman Peter	Vibration of Imperfect Slender Webs	J. Ravinger
4.	Prekop Ľubomír	Interaction of Wall System with Subsoil Including the Effect of Material Nonlinearity	N. Jendželovský
5.	Psočný Martin	Nonlinear Buckling Analysis of Thin-Walled Structures	J. Ravinger
6.	Šimonovič Miroslav	Interaction of Structures with Subsoil Using Infinite Elements	J. Králik
7.	Véghová Ivana	New Experimental and Analytical Methods in Verification of Structures Subjected to Dynamic Effects	M. Sokol
8.	Vyskoč Eduard	Non-Linear Analysis of Reinforced Concrete Structures	J. Ravinger
9.	Tvrďá Katarína	Structure-Subsoil Interaction Problem in Optimal Design of Plates with Unilateral Bonds	J. Dický
10.	Meravý René	Interaction Structures and Subsoil under Dynamic Transport Load	N. Jendželovský
11.	Bekö Adrián	Nonlinear Dynamic Analysis of Structures	M. Sokol

### VII.3 Habilitation Theses

No.	Name	Title
1.	Hubová Oľga	Wind-Induced Vibrations of Slender Structures
2.	Mistričková Zora	Louvre Plate on Elastic Foundation with Respect to Unilateral Coupling. Solution and Numerical Analysis

## VIII. OTHER ACTIVITIES

### VIII.1 Special Lectures

- [1] LOVÍŠEK, J.: Reliable Proposal for the Solution of an Optimal Control Problem, August 2002, Institute of Mathematics, Academy of Science of the Czech Republic
- [2] KRÁLIK, J.: Seismic Analysis of a High-Rise Building, Brno Military Academy, Czech Republic

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

- 1. IVÁNKOVÁ, O.: (04-191-02) Technical and Economic Analysis of the Ice-Rink in Martin.
- 2. KRÁLIK, J.: (04-435-01) Action of Technical Seismics on Structure of an Ancient Mill in Holíč. Slovak University of Technology Bratislava, 2002
- 3. KRÁLIK, J.: Static Review for Final Documentation of Seismic Resistance of Building No. SO JE V2 - SO 803, Administration Building. Slovak University of Technology Bratislava, 2002
- 4. KRÁLIK, J.: Review of Floor Spectrum of Acceleration of Seismic Responses of SO 590/591. Slovak University of Technology, Bratislava, 2002
- 5. SOKOL, M.: (04-001-02) Seismic Analysis and Detailing of Bridge Structures: 207-00 Bridge over River Váh on km 3.9-4.2, "Púchov Highway Crossing", for CEMOS Bratislava
- 6. SOKOL, M.: (04-081-02) Dynamic and Seismic Analyses for Main Span of the Košická-Bratislava Bridge, Combined Steel-Concrete Deck, for Dopravoprojekt Bratislava
- 7. SOKOL, M.: (04-241-02) Seismic Analysis and Detailing of Bridge Structures: 250-00 Bridge at I/18-I/64 Crossing, for CEMOS Bratislava
- 8. SOKOL, M.: (04-242-02) SOKOL, M.: Seismic Analysis and Detailing of Bridge Structures: 102-00, Piers of the 217-00 Structure in Žilina and 220-00 Structure Bridge over the C I/64 Road at km 5.598 and over the Railway near Váhostav in Žilina, for Geoconsult Bratislava
- 9. SOKOL, M.: (04-286-02) Postgraduate Course. Summer School of Dynamics - Dynamic and Seismic Effects on Buildings, Banská Bystrica, September 24-25, 2002, Banská Bystrica
- 10. AGÓCS, Z. – SOKOL, M.: (04-016-02) Vibrations on Cables of the Košická Bridge in Bratislava, for Dopravoprojekt Bratislava

### VIII.3 Conferences and Workshops Organized

1. Science Education Seminar, Current Education Problems in Mechanics, June 25-26, 2002, Kočovce
2. International Conference on New Trends in Statics and Dynamics of Buildings, Slovak University of Technology in Bratislava, October 24-25, 2002, Slovak Society of Mechanics
3. Seminar, Mechanics of Structures - Today and Tomorrow, June 27-28, 2002, Kočovce

## IX. PUBLICATIONS

### IX.1 Journals

- [1] HUBOVÁ, O., SOKOL, M.: Bridge Cable Aeroelastic Instability According to ENV 1991-2-4. *Engineering Mechanics*, 3/2002, pp. 171-177 (in Slovak)
- [2] RAVINGER, J. – KLEIMAN, P.: Natural Vibration of Imperfect Columns and Frames. *Building Research Journal*. Vol. 50, 2002, No.1, pp. 49-67
- [3] SUMEC, J., SOKOL, M.: Biomechanics of the Lumbar Region of the Human Spine. *Acta of Bioengineering and Biomechanics*. Vol. 4, 2002, pp. 96-97 (in English)
- [4] SUMEC, J. – KLEIMAN, P.: Durability of Pipeline System. *Roczniki Inzynierii*, 2002 (in English)
- [5] Králik, J.: Safety and Reliability Analysis of Concrete Containment with Regard to Cracking of Concrete Due to Accidental Loss of Coolant. *Inžinierske stavby*, Vol. 50, 2002, No. 3, pp. 24-30 (in English)
- [6] SUMEC, J.: Biomechanics in Slovakia. *Newsletter of ESB, Biomechanics in Poland and Eastern Europe*, Wroclaw Poland, September, 2002, pp. 36-38 (in English)

### IX.2 Books and Textbooks

- [1] JENDŽELOVSKÝ, N. – PREKOP, L.: *Displacement Methods*. ES STU Bratislava 2002, ISBN 80-227-1639-1, 102 pp. (in Slovak)
- [2] RAVINGER, J. – KOLEKOVÁ, Y.: *Elasticity II*. ES STU Bratislava 2002, ISBN 80-227-1769-2, 190 pp. (in Slovak)
- [3] SOKOL, M.: *Postgraduate Course. Summer School in Dynamics - Dynamic and Seismic Effects on Buildings*, Banská Bystrica, September 24-25, 2002, 60 pp. (in Slovak)

### IX.3 Conferences

- [1] HUBOVÁ, O.: Wind Induced Vibrations of Slender Structures. In: *Proceedings of the 7th Scientific Conference (with international participation)*, Košice, May 22-24, 2002, ISBN 80-7099-815-6 (in English)
- [2] IVÁNKOVÁ, O.: Statics and Dynamics of a 3D Grid Plate. In: *Proceedings of the 10th ANSYS User's Meeting*, Čejkovice, September 26-27, 2002, pp. I-B-4, 1-6 (in Slovak)



- [3] JENDŽELOVSKÝ, N.: Simulation of an Embankment with Reinforcement. In: Proceedings of the 10th ANSYS User's Meeting, September 26-27, 2002, pp. I-B-13 (4 pp.) (in Slovak)
- [4] JENDŽELOVSKÝ, N. – TUPÝ, T.: Static and Dynamic Analysis of an Office Building. In: Proceedings of the 10th ANSYS User's Meeting, Čejkovice, September 26-27, 2002, pp. I-B-10 (4 pp.) (in Slovak)
- [5] KRÁLIK, J. - CESNAK, J.: Experimental and Numerical Analysis of Damping Devices under Impact Loads from Solid Waste Container. In: Proceedings of the 10th ANSYS User's Meeting, Čejkovice, September 26-27, 2002, pp. 1-B-11/1-6 (in English)
- [6] KRÁLIK, J.: Solution to Problems of Soil and Structure Interaction in the ANSYS System. In: Proceedings of the 10th ANSYS User's Meeting, Čejkovice, September 26-27, 2002, pp. 1-B-9/1-6 (in Slovak)
- [7] KRÁLIK, J. - PONEK, T. - JAVOREK, T.: Simulation of Horizontal Loads on a High-Rise Building. In: Proceedings of the 10th ANSYS User's Meeting, Čejkovice, September 26-27, 2002, pp. 1-B-9/1-6 (in Slovak)
- [8] KRÁLIK, J. - MARTON, P. - JAVOREK, T.: Design of Precast Reinforced Concrete Structures in a Seismic Region. In: Proceedings of the 10th ANSYS User's Meeting, Čejkovice, September 26-27, 2002, pp. 1-B-15/1-6 (in Slovak)
- [9] KRÁLIK, J. - ŠIMONOVICH, M.: Dynamic Analysis of Foundation Plate and Soil Interaction Using Finite and Infinite Solid Elements, In: Proceedings of 12th European Conference on Earthquake Engineering, published by Elsevier Science Ltd. Reference 768, September 9-13, 2002, Barbican Centre London, UK, EAEE, Society for Earthquake and Civil Engineering Dynamics, 2002 (in English)
- [10] KRÁLIK, J.: Experimental and Numerical Analysis of Reinforced Concrete Containment after Accidental Loss of Coolant. In: Proceedings of the International Symposium on Mechanics of Composites, October 14, 2002, Prague, Czech Republic, CTU in Prague, Klokner Institute, 2002, pp. 91-98, ISBN 80-01-02621-3 (in English)
- [11] KRÁLIK, J. – JAVOREK, T.: Seismic Analysis of Reinforced–Concrete High-Rise Building Bearing Systems, In: Proceedings of International Symposium on Mechanics of Composites, October 14, 2002, Prague, Czech Republic, CTU in Prague, Klokner Institute, 2002, pp. 85-90, ISBN 80-01-02621-3 (in English)
- [12] KRÁLIK, J.: Safety Analysis of Nuclear Power Plant Structures in Slovakia, In: Proceedings of the 1st Meeting for the ISP 48, NEA/SEN/SIN/IAGE (2002) 6, SKI, Stockholm, Sweden, 2002, JT00132174 (in English)
- [13] PREKOP, Ľ.: Simulation Reinforcing Sheet Wall. In: Proceedings of the 10th ANSYS User's Meeting, Čejkovice, September 26- 27, 2002, SVS FEM Brno, 2002, I–B–5, 5 pp. (in Slovak)
- [14] PREKOP, Ľ. – VYSKOČ, E.: Analysis of Stress State of a Rectangular Container. In: Proceedings of the 10th ANSYS User's Meeting, Čejkovice, September 26- 27, 2002, SVS FEM Brno, 2002, I–B–7, 5 pp. (in Slovak)
- [15] SUMEC, J., SOKOL. M.: 3D FEM Modelling of the Lumbar Spine, In: Proceedings of the 4th International SKELET 2002 Conference, Prague, ISBN 80-86317-19-6, pp. 72-73 (in English)
- [16] SOKOL. M. – SUMEC, J.: Seismic Response of Wide-Span Shell-Like Structures. In: Space Structures 5, Vol. 2, August 19-21, 2002, Surrey England. Thomas Telford

- ISBN 0-7277-3173-4, pp. 1037-1042 (in English)
- [17] SOKOL, M. – SUMEC, J.: Effects of Overloading Human Lumbar Spine. In: Proceedings of International Conference on the Biomechanics of Man, Čejkovice 2002, November 12-15, 2002, ISBN 80-86317-23-4, pp. 151-154 (in English)
- [18] SUMEC, J. – SOKOL, M.: Evaluation of the Lumbar Spine's Load Bearing Capacity. In: Proceedings of the 10th ANSYS User's Meeting, Čejkovice, September 26- 27, 2002, ISBN 80-238-9394-7, pp. I-A-13, 6 pp. (in English)
- [19] Fillo, L. – SOKOL, M.: Impact of an Aircraft on Concrete High-Rise Building. In: Proceedings of Concrete Days 2002, Pardubice, pp. 154-158 (in English)
- [20] BALÁŽ, I. – KOLEKOVÁ, Y.: Clark – Mrázik Formula for Critical Moments. In: Proceedings of Internal Colloquium on Stability and Ductility of Steel Structures. September 26-28, 2002, Budapest, pp. 39-46 (in English)
- [21] BALÁŽ, I. – KOLEKOVÁ, Y.: Critical Moments. In: Proceedings of Internal Colloquium on Stability and Ductility of Steel Structures. September 26-28, 2002, Budapest, pp. 31-38 (in English)
- [22] BALÁŽ, I. – KOLEKOVÁ, Y.: Warping. In: Proceedings of Internal Colloquium on Stability and Ductility of Steel Structures. September 26-28, 2002, Budapest, pp. 801-808 (in English)
- [23] DICKÝ, J.: Non-Linear Evolutionary Structural Optimization in Civil Engineering Design. In: Proceedings of International Conference on Static-Structural and Building-Physical Problems in Civil Engineering, November 2002, Tatranská Lomnica, pp. 239-244 (in English)
- [24] DICKÝ J. – TVRDÁ, K.: Structural Optimization in Civil Engineering Design. In: Proceedings of International Conference on New Trends in Statics and Dynamics of Buildings, October 24-25, 2002, Bratislava, pp. 187-190 (in English)
- [25] IVÁNKOVÁ, O.: Statics and Dynamic Analyses of Spatial Steel Structures. In: Proceedings of International Conference on New Trends in Statics and Dynamics of Buildings, October 24-25, 2002, Bratislava, pp. 273-278 (in Slovak)
- [26] IVÁNKOVÁ, O. – DRŽÍK, M.: Experimental and Numerical Assessment of Plastic Zone around a Cracked Base by Photo-elastic Method. In: Proceedings of the International Conference on New Trends in Statics and Dynamics of Buildings, October 24-25, 2002, Bratislava, pp. 85-90 (in Slovak)
- [27] IVÁNKOVÁ, O.: Results of Seismic Load on Spatial Steel Structure. In: Proceedings of International Conference on Static-Structural and Building-Physical Problems in Civil Engineering, November 2002, Tatranská Lomnica, pp. 197-202 (in Slovak)
- [28] IVÁNKOVÁ O. – KAISER J.: Design of Reinforced Concrete Beams Affected by Cracks in Concrete. In: Proceedings of International Conference on Static-Structural and Building-Physical Problems in Civil Engineering, November 2002, Tatranská Lomnica, pp. 233-238 (in Slovak)
- [29] JENDŽELOVSKÝ, N.: The Effect of Groundwater on the Displacement of a Foundation Beam. In: Proceedings of the 7th Scientific Conference (with international participation), Košice, May 22-24, 2002, ISBN 80-7099-815-6, pp. 106-109 (in English)
- [30] JENDŽELOVSKÝ, N.: Concrete Slabs with Steel Fibres on an Elastic Foundation. In: Proceedings of International Conference on New Trends in Statics and Dynamics

- of Buildings, October 24-25, 2002, Bratislava, pp. 313-316, ISBN 80-227-1790-8 (in Slovak)
- [31] JENDŽELOVSKÝ, N.: Simulation of Reinforced Embankment by FEM. In: Proceedings of International Conference on New Trends in Statics and Dynamics of Buildings, October 24-25, 2002, Bratislava, pp. 299-302, ISBN 80-227-1790-8 (in Slovak)
- [32] KRÁLIK, J. – CESNAK, J.: Design of Safety Arrangements for Impact of Container on HVB JE. In: Proceedings of Concrete Days 2002, Slovak University of Technology, Faculty of Civil Engineering, September 18-19, 2002, ISBN 80-227-1755-X, pp. 307-312 (in Slovak)
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