

**DEPARTMENT OF ELECTRICAL MACHINES AND DEVICES**

<http://www.kesp.elf.stuba.sk/>

**Head of Department**

**Doc. Ing. Ľudovít Hüttner, PhD.**

e-mail: ludovit.huttner@stuba.sk

Tel.: +421-2-602 91 471

+421-918 640 418

Fax: +421-2-654 20 415

**STAFF**

Professors	Prof. Ing. Ladislav Hruškovič, DrSc., Prof. Ing. Ľudovít Klug, PhD.
Associate Professors	Doc. Ing. Ľudovít Hüttner, PhD., Doc. Ing. Neitus Lipták, PhD., Doc. Ing. Ferdinand Valent, PhD.
Assistant Professors	Ing. Ladislav Borba, PhD., Ing. Ľudovít Jurčacko, Ing. Michal Duč-Anci
Technical Staff	Jana Jusková (secretary), Jozef Hubač
PhD. Students	Ing. Vladimír Kujan, Ing. Dárius Tavalý, Ing. Vladimír Halička

**II. EQUIPMENT**

**II.1 Teaching and Research Laboratories**

- Laboratory for Testing and Measurement of Electric Machines
- Laboratory of Special Electric Machines
- Laboratory of Short Circuit Tests (with a high current generator source 35 kA, 2 MVA, 440 V)
- Laboratory of Short Circuit Tests (with a capacitor source)
- Laboratory of Controlled Drives and Servosystems
- Laboratory of Power Electronics
- Common laboratories Schneider – FEI STU –FIIT STU

**II.2 Special Measuring Instruments and Computers**

- Lucas-Nülle didactic equipment for subjects Power Electronics and Controlled Drives
- SIMOVERT, SIMOREG and VONSCH power converters
- State accredited Testing Laboratory of FEI STU for Electric Apparatus (SLEPr)
- Laboratory stands with digital signal processors TMS 320 C 50
- Computers room Schneider – FEI STU –FIIT STU

**III. TEACHING**

**III.1 Undergraduate Study (Bc.)**

Subject, semester, hours per week for lectures and for seminars or practical exercises, name of the lecturer

Electric Machines	(5th sem., 3-2h)	E.Klug
Electric Heating Devices	(6th sem., 3-2h)	E.Hüttner

Electric Apparatus and Distribution Stations	(6th sem., 3-2h)	F.Valent, F.Janiček
Electric Apparatus	(7th sem., 3-2h)	F.Valent
Power Electronics	(7th sem., 3-2h)	L.Borba
CAD of Electric Machines	(7th sem., 3-2h)	E.Klug
CAMS of Electric Power Systems	(7th sem., 2-3h)	N.Lipták
Electric Drives	(8th sem., 3-2h)	L.Borba
Design of Power Engineering Equipment	(8th sem., 3-2h)	F.Valent

### III.2 Graduate Study (Ing.)

Electric Drives and Power Electronics	(1st sem., 2-2h)	L.Borba
Selected Chapters from Electric Apparatus	(1st sem., 2-2h)	F.Valent
Electric Traction Systems	(1st sem., 2-2h)	L.Borba
Selected Chapters from Electric Apparatus	(2nd sem., 2-2h)	F.Valent
Special Electric Machines	(2nd sem., 3-2h)	E.Klug
Utilisation of Electrical Energie	(2nd sem., 2-2h)	E. Hüttner, A.Smola
CAD of Electric Power Equipment	(3rd sem., 2-2h)	E.Klug, E.Hüttner
Electronic Energy Converters	(2nd sem., 2-2h)	L.Borba
Electric Traction Systems	(3rd sem., 2-2h)	L.Borba
Utilisation of Electrical Energie	(3rd sem., 2-2h)	E. Hüttner, A.Smola
Electric Heating Devices	(3rd sem., 2-2h)	E.Hüttner

### III.3 Undergraduate Study (Bc. Distance Education Method)

Electric Machines	(3rd year)	E.Hüttner
Electric Drives	(3rd year)	L.Borba
Electric Apparatus	(4th year)	E.Hüttner
Utilisation of Electrical Energie	(4th year)	E. Hüttner, A.Smola

## IV. RESEARCH PROJECTS

- Theoretical fundamentals of the power system stability in the interconnected European system. VEGA 1/3092/06, F. Janiček
- Research and development of new generation of electrical linear drives with high accuracy of positioning. APVV-99-031205, EVPÚ Nová Dubnica, SR, J.Kuchta

## V. COOPERATION

### V.1 Cooperation in Slovakia

- ELOSYS Trenčín
- KIWA Ltd. Nitra
- Siemens Ltd. Bratislava
- TU Košice
- ŽU Žilina

- LEGRAND Slovakia
- MOELLER Slovakia
- OEZ Slovakia
- SCHNEIDER-ELECTRIC, Ltd.
- BSH Drives and Pumps, Michalovce
- PHOENIX CONTACT, Košice
- PPA Control, jsc

## **V.2 International Cooperation**

- DEHN+SOHNE, Neumarkt, Germany
- OEZ Letohrad, CzR
- HESS TRADING, Sudoměřica, CzR
- M.SCHNEIDER, Vienna, Austria,
- PHOENIX CONTACT, Brno, CzR
- ČVUT Praha, CzR
- VUT Brno, CzR
- Politechnika Gliwice, Poland
- VŠB Ostrava, CzR
- ZČU Plzeň, CzR

## **V.3 Membership in Slovak Organizations and Societies**

- Ľ. Hüttner.: Vice-chairman of Common departmental committee of scientific department 26-32- 9 Electromechanical Energy Conversion in Slovak Republic
- L. Hruškovič, N. Lipták, F. Valent.: Members of Common departmental committee of scientific department 26-32-9 Electromechanical Energy Conversion in Slovak Republic
- L. Hruškovič, Ľ. Klug, Ľ. Hüttner, N. Lipták, F. Valent: Members of Common departmental committee of scientific department 5.2.11 Electromechanical Energy Conversion at STU FEI
- Ľ. Hüttner.: Member of Common departmental committee of scientific department 5.2.11 Electromechanical Energy Conversion at University of Žilina

## **V.4 Membership in International Organizations and Societies**

- Ľ. Hüttner, F. Valent: IEE
- Ľ. Hüttner: Member of Editorial board of the journal "Electrical machines building and electrical equipment" , Odessa National Polytechnic University, Ukraine

## **V.5 Contracts**

none

## **VI. THESES**

### **VI.1 Masters Theses**

Masters theses supervised at the Department of Electric Machines and Devices. The names of supervisors are in brackets.

- [1] M.Bognár: Device for surge guarding. (Ľ.Jurčacko)

## **VII. OTHER ACTIVITIES**

none

## **VIII. PUBLICATIONS**

### **VIII.1 Journals**

- [1] HALIČKA, V.: Surface Permanent Magnet Synchronous Linear Motor. In: EE časopis pre elektrotechniku a energetiku. - ISSN 1335-2547. - Vol. 13, No. 6 (2007), p. 16-17. (in Slovak)
- [2] HÜTTNER, L., VALENT, F., JURČACKO, L.: Arcing Fault - Dangerous Phenomenon in the Low-Voltage Switchboards. In: Sovremennyj naučnyj vestnik. - ISSN 1561-6886. - No. 4 (2007), p. 39-45. (in English)
- [3] HÜTTNER, L., DUČ-ANCI, M.: Transient Overheating of the Current Path in a Switch Gear Solved by a Difference Method. In: EE časopis pre elektrotechniku a energetiku. - ISSN 1335-2547. - Vol. 13, No. 6 (2007), p. 42-43. (in Slovak)
- [4] HÜTTNER, L., VALENT, F., JURČACKO, L.: The Properties of Circuit Breakers for Rated Current up to 125 A. In: EE časopis pre elektrotechniku a energetiku. - ISSN 1335-2547. - Vol. 13, No. 6 (2007), p. 39-41. (in Slovak)

### **VIII.2 Conference Proceedings**

- [1] DUČ-ANCI, M., MASNÝ, M., BELÁK, R.: Methods to Solve Thermal Field of Electric Contact. In: ELITECH '07. The 9th Conference for PhD Students Electrical Engineering and Information Technology: Bratislava, Slovak Republic, 16.5.2007. - Bratislava: STU, 2007. - ISBN 978-80-227-2655-9. - CD-Rom. (in English)
- [2] HALIČKA, V.: Linear Drives with Permanent Magnet Synchronous Reluctance Motor. In: ELITECH '07. The 9th Conference for PhD Students Electrical Engineering and Information Technology: Bratislava, Slovak Republic, 16.5.2007. - Bratislava: STU, 2007. - ISBN 978-80-227-2655-9. - CD-Rom. (in English)
- [3] HALIČKA, V.: Linear Drives with Permanent Magnet Synchronous Reluctance Motor. In: ISEM 2007. International Symposium on Electric Machinery in Prague: Prague, Czech Republic, 5.-6.9.2007. - Prague: ČVUT, 2007. - p. 40-47. (in English)
- [4] HÜTTNER, L., DUČ-ANCI, M.: Overheating Transient Phenomenon of Contactor's Current Path. In: XVIIth Symposium on Physics of Switching Arc: Vol. 1 Contributed Papers: Brno, Czech Republic, 10.-13.9.2007. - Brno: University of Technology, 2007. - ISBN 978-80-214-3370-0. - ISBN 978-80-214-3359-5. - p. 105-108. (in English)
- [5] HÜTTNER, L., VALENT, F., JURČACKO, L.: Short-Circuit Breaking Capacity of Miniature Circuit Breakers Up To 125 A. In: XVIIth Symposium on Physics of Switching Arc: Vol. 1 Contributed Papers: Brno, Czech Republic, 10.-13.9.2007. - Brno: University of Technology, 2007. - ISBN 978-80-214-3370-0. - ISBN 978-80-214-3359-5. - p. 109-112. (in English)
- [6] HÜTTNER, L.: Education of the Subject Electrical Machines in Study Branches at FEI STU in Bratislava. In: KOPES 2007. Conference of Teachers of Departments of Electrical Machines from the Universities of Czech and Slovak Republic. Brno, Czech Republic, 23.-25.1.2007. - Brno: Univerzita obrany, 2007. - ISBN 978-80-7231-252-8. - p. 54-55. (in Slovak)
- [7] KLUG, L.: Special Purpose Electrical Machines Using Permanent Magnets. In: ISEM 2007. The International Symposium on Electric Machinery in Prague: Prague, Czech Republic, 5.-6.9.2007. - Prague: ČVUT, 2007. - p. 88-94. (in English)

- [8] KLUG, L.: Research Activity of the Staff of Department of Electrical Machines in the Year 2006. In: KOPEŠ 2007. Conference of Teachers of Departments of Electrical Machines from the Universities of Czech and Slovak Republic. Brno, Czech Republic, 23.- 25. 1. 2007. - Brno: Univerzita obrany, 2007. - ISBN 978-80-7231-252-8. - p. 65-66. (in Slovak)
- [9] MASNÝ, M., DUČ-ANCI, M., BELÁK, R.: Thermal Transients Analysis of a Contact in Current Path. In: XVIIth Symposium on Physics of Switching Arc: Vol. 1 Contributed Papers: Brno, Czech Republic, 10.-13.9.2007. - Brno: University of Technology, 2007. - ISBN 978-80-214-3370-0. - ISBN 978-80-214-3359-5. - p. 157-160. (in English)

### **VIII.3 Textbook**

- [1] HÜTTNER, L.: Electric Apparatus. - Bratislava: STU, 2007. - 160p. - ISBN 978-80-227-2598-9. (in Slovak)