DEPARTMENT OF ELECTRICAL ENGINEERING AND MECHATRONICS

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Head of Department
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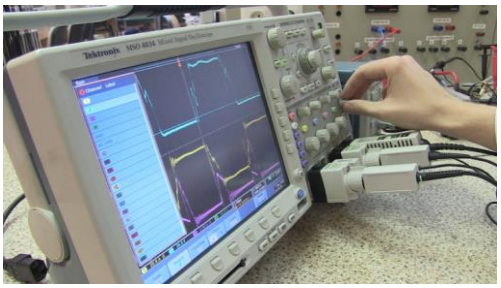
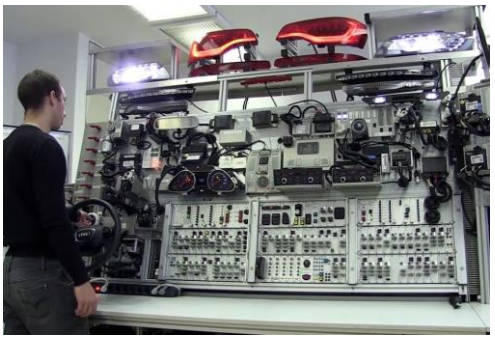
1 DEPARTMENT'S PROFILE

The Department was established at foundation of the Faculty of Electrical Engineering in 1969 as the Department of Electrical Drives but originally it presents a continuation of the Department of Electrical Egineering established at foundation of the Technical University of Kosice (1953). Through the years the name of the department was changed in order to express closier its activities and development.

Staff members of the department are experienced in wide areas of electrical engineering, incl. automotive electrical engineering, mechatronics, and robotics what they utilise in teaching and research. Currently, the department is responsible for education and research in area of electrical engineering, namely in fields of power and industrial electronics, electrical machines and apparatuses, sensors, electromechanical systems, controlled drives, multi-motor drives, control systems, and industrial and automotive mechatronic systems up to drives of robots.

The Department offers all types of university courses: bachelor, master and Ph.D. courses.





2 STAFF

Professors:	prof. Ing. Jaroslav Dudrik, PhD. prof. Ing. Pavol Fedor, PhD. prof. Ing. Daniela Perduková, PhD. prof. Ing. Pavel Záskalický, PhD.
Associate Professors:	doc. Ing. František Ďurovský, PhD. doc. Ing. Viliam Fedák, PhD. doc. Ing. Želmíra Ferková, PhD. doc. Ing. Michal Girman, PhD. doc. Ing. Ján Kaňuch, PhD. doc. Ing. Milan Lacko, PhD. doc. Ing. Jaroslava Žilková, PhD.
Assistant Professors:	Ing. Ján Bačík, PhD. Ing. Peter Bober, PhD. Ing. Peter Girovský, PhD. Ing. Karol Kyslan, PhD. Ing. Marek Pástor, PhD.
Senior Scientists:	Ing. Milan Biroš, PhD. Ing. Peter Hajsák Ing. Viktor Šlapák, PhD.
Technical Staff:	Ing. Gabriela Brečková Zuzana Olexová doc. Ing.Michal Kostelný, CSc. prof. Ing. Jaroslav Timko, CSc.
Full time Ph.D. Students:	Ing.Juraj Biľanský (since September 2019) Ing. Jozef Ivan (since September 2019) Ing. Richard Olexa (since September 2019) Ing. Ľuboš Suchý (till June 2019) Ing. Róbert Üveges (till June 2019)

3 LABORATORIES

- Laboratory of Electrical Engineering
- Power Electronics Laboratory
- Laboratory for CAD
  (COSMOS, ProEngineer, MATLAB, PSpice, and applied SW, ABBRobotStudio)
- Laboratory of Industrial Automation
- Laboratory of Electrical Machines
- Laboratory of Electrical Drives
- Laboratory of Controlled Electrical Drives and Mechatronics
- Laboratory of Automotive Mechatronics
- Laboratory of Pneumatic and Hydraulic Systems
- Virtual Laboratory of Technological Processes Control by Programmable Logic. http://www.virtual.laboratory.kempi.fei.tuke.sk
- Virtual Laboratory of Mechatronic Systems Control: http://andromeda.fei.tuke.sk

4 TEACHING

4.1. Undergraduate Study (Bc.)

a) Bachelor study programme in Automated Electrical Systems (title: Bc.)

Subject	Semester	Lectures/exercises (hours per week)	Lecturer
Fundamentals of Electrical Engineering	1st	2/2	Kaňuch
Computer Applications	3th	2/2	Perduková
Electrical Machines	3rd	2/2	Záskalický
Electrotechnics in Vehicles	3th	2/2	Ďurovský
Industrial Electronics	3th	2/2	Záskalický
Electrical Drives	4th	2/3	Žilková
Fundamentals of Microcomputer programming	3rd	2/2	Lacko
CAD Programs in Electrical Engineering	4th	2/2	Fedák
Power Electronics	4th	3/3	Dudrik
Sensors and Measurement of Nonelectrical Quantities	4th	2/2	Girovský
Industrial Control Systems	4th	2/2	Fedor
Bachelor Thesis I.	5th	0/8	Supervisor
Simulation of Production Systems	5th	2/2	Bober
Controlled Electrical Drives	5th	2/2	Ďurovský
ManMachine Interface	5th	2/2	Peduková
Bachelor Project	5th	0/8	Supervisor
Bachelor Thesis II.	6th	0/8	Supervisor
Modeling of Electromechanical Systems	6th	2/2	Fedák
Projecting of Electrical Systems	6th	2/2	Ferková
Pneumatic and Hydraulics Systems	6th	2/2	Bober

4.2. Graduate Study (Ing.)

a) Master study programme in Electrical Systems (title: Ing.)

Subject	Semester	Lectures/exercises (hours per week)	Lecturer
Power Semiconductor Systems	7th	2/2	Dudrik

Non-linear Electro-Mechanical Systems	7th	2/2	Fedor
Servosystems	7th	2/2	Ďurovský
Dynamic Phenomena of Electrical Machines	7th	2/2	Záskalický
Electrical Machines for Automation	7th	2/2	Ferková
Technology of Production in Electronics	7th	2/2	Slosarčík
Vehicle Mechatronics	8th	2/2	Ďurovský
Construction and Design of Converters	8th	2/2	Dudrik
Control of Assembly Lines with Programming Controllers	8th	2/2	Fedor
Statistical Process Control	8th	2/2	Bober
Diploma Project	8th	0/4	Supervisor
Robotics	8th	2/2	Žilková
Diploma Project II	9th	0/6	Supervisor
Mechatronic Production Systems	9th	2/2	Ďurovský
Intelligent Control of Electrical Systems	9th	2/2	Žilková
Three-Dimensional Modelling and Simulation	9th	2/2	Ferková
Signal Processors	9th	2/3	Lacko
Technology of Production in Electrotechnics	9th	2/2	Girman
Design of Electrotechnic Equipments	9th	1/3	Lacko
Diploma Thesis	10th	0/18	Supervisor

4.3. Undergraduate and Graduate Study for Foreign Students (in English)

All subjects listed above are offered in English language for foreign students.

4.4. Ph.D Postgraduate Course on Electrical Systems

Subject	Semester	Lectures/exercises (hours per week)	Lecturer
Power Electronics	1st	2/0	Dudrik
Ph.D. Project I	1st	0/2	Supervisor
Foreign Language I	1st	2/0	Dept. of Foreign Languages
Servosystems	2nd	2/0	Fedor
Ph.D. Project II	2nd	0/2	Supervisor
Foreign Language II	2nd	2/0	Dept. of Foreign Languages
Ph.D. Project III	3rd	0/4	Supervisor
Subject of Specialization	3rd	2/0	According to the subject
Scientific Activity	3rd	0/8	Supervisor
Ph.D. Project IV	4th	0/2	Supervisor
Scientific Activity	4th	0/8	Supervisor
Ph.D. Project IV	5th	0/2	Supervisor
Scientific Activity	5th	0/8	Supervisor
Ph.D. Thesis	5th	0/9	Supervisor

5 RESEARCH PROJECTS

- *Modular power converter for compact actuators with high precision gears*. Project supported by the Slovak Research and Development Agency under the contract No. APVV-15-0750. Principal investigator: ĎUROVSKÝ, F. (2016-2020).
- *Modular Development System for Control of Power Plant Units based on DCS.* Project supported by the Slovak Research and Development Agency under the contract No. APVV-16-0206. Principal investigator: FEDOR, P. (2017-2020).

- *Smart Drive with Five-Phase Asynchronous Motor.* Project supported by the Slovak Research and Development Agency under the contract No. APVV-16-0270. Principal investigator: ZASKALICKÝ, P. (2017-2021).
- *Development of Modular Traction Battery and Optimization of Electrical Power Consumption in Electric Midibus.* Project supported by the Slovak Research and Development Agency under the contract No. APVV-18-0436. Principal investigator: LACKO, M. (2019-2023)
- *Development of Dynamically Demanding and Energy-Optimal Electromechanical Systems.* Project VEGA 1/0187/18 Scientific Grant Agency of the Ministry of Education, science, research and sport of the Slovak Republic and the Slovak Academy of Sciences. Principal investigator: DUDRIK, J. (2018-2020)
- *Dynamic Emulation of Mechanical Loads,* Project VEGA 1/0493/19, Scientific Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Academy of Sciences, principal investigator: KYSLAN, K. (2019 – 2022).

6 CO-OPERATION

6.1. Co-operation in Slovakia

The Department co-operates with many industrial enterprises in Slovakia having joint projects at modernising of the electrical drive systems, control and mechatronic applications: U.S.STEEL Košice, SIEMENS, ABB, BSH Drives and Pumps Michalovce, BWG Prešov, Křižík Prešov, Schneider Electric Slovakia, Spell Procont Prešov, Spinea Prešov, Vonsch Brezno, Kybernetika Košice, TEKO Košice, ENERGO CONTROL Košice, ZŤS VVU Košice, ŽP Podbrezová, Bukóza Hencovce, Embraco Slovakia Spišská Nová Ves, Slovak Union for Quality, Innovation and Design Q-IMPULZ, Košice, SEZ Krompachy, DATAKON Košice, SLOVRES Košice, STATON Turany, ROŠERO-P, Sp.N.Ves.

6.2. International Co-operation

- University of Zagreb, Croatia
- Brno University of Technology, Czech Republic
- Technical University of Liberec, Czech Republic
- VŠB -Technical University of Ostrava, Czech Republic
- West Bohemian University, Pilsen, Czech Republic
- University of Technology and Economy, Budapest, Hungary
- University of Miskolc, Hungary
- Silesian University of Technology, Gliwice
- Széchenyi István University, Győr, Hungary
- Delft University of Technology, The Netherlands
- Czech Academy of Science, Prague.
- University of Oradea, Romania
- University of Maribor, Slovenia
- University of Zagreb, Croatia
- University of Novi Sad, Serbia
- CAG Český Brod, Czech Republic

6.2.1. Visits of Staff Members to Foreign Institutions

- ĎUROVSKÝ, F.; IVAN, J., KAŇUCH, J.: SEKEL 2019, Harrachov (CZ), 9-11 September 2019.
- FERKOVÁ, Ž.: KOPES, ČVUT Prague (CZ), January 2019.
- FERKOVÁ, Ž.: ZU Plzeň (CZ), June 2019.
- FERKOVÁ, Ž.: TechSoft Engineering Praha (CZ), December 2019
- KAŇUCH, J., ZÁSKALICKÝ, P.: KOMEL 2019, Katowice (PL), May 2019
- KYSLAN, K, FEDÁK, V. and PÁSTOR, M: Erasmus+ Staff Teaching Mobility, 10 days, May 2019, University of Novi Sad, Serbia
- LACKO M., FERKOVÁ Ž, BIĽANSKÝ J., BUSWORLD Brusel , October 2019
- ŠLAPÁK, V. – IVAN, J.: Ingenia Barcelona (E), 28 October – 1 November 2019.

6.3. Membership in International Organizations, Societies and Committees

- FEDÁK, V.: Vicechairman of the Power Electronics and Motion Control Council (PEMC) with the headquarters in Budapest.
- FEDÁK, V.: Chairman of the 19th Electrical Drives and Power Electronics International Conference, EDPE 2019, the High Tatras, 24-26 September 2019.
- FEDÁK V.: Evaluation committee member of the GOLDEN AMPER 2019 competition in framework of the 26th International Trade Fair of Electrotechnics, Energetics, Automation, Lightning, and Security Technologies, Brno, Czech Republic, March 2019.
- DUDRIK, J; FERKOVÁ, Ž, KYSLAN: IEEE members.
- KYSLAN, K. Programme Chairman of EDPE 2019 conference, The Hight Tatras, Slovakia, 24-26 September 2019
- PERDUKOVÁ, D.: member of Programme Committee: 14th International Conference on Soft Computing Models in Industrial and Environmental Applications – SOCO 2019, Seville, Spain, 13-15 May 2019.
- ZÁSKALICKÝ, P.: member of International Scientific Committee: KOMEL, Rytro, Poland, May 2019.

6.4. Membership in Slovak Professional Bodies

- FEDÁK, V.; KAŇUCH, J.; TIMKO, J.; ZÁSKALICKÝ, P.; FEDOR, P.; FERKOVÁ, Ž.; GIROVSKÝ, P.; HAJSÁK, P.; LACKO, M.; PERDUKOVÁ, D.: members of The SES (Slovak Electrotechnical Society), Branch at FEI TU Košice.
- FEDÁK, V.: Chairman of the 19th Electrical Drives and Power Electronics International Conference,EDPE 2019, The High Tatras, 24-26 September 2019.
- FEDÁK V.: Evaluation committee member of the GOLDEN AMPER 2019 competition in framework of the 26th International Trade Fair of Electrotechnics, Energetics, Automation, Lightning, and Security Technologies, Brno, Czech Republic, March 2019.
- FERKOVÁ, Ž.: Member of Technical Standards Commission on Electrical Machines in Slovak Republic.
- PERDUKOVÁ, D.: Member of Accreditation Commission working group for research in Electrical and Power Engineering.
- PERDUKOVÁ, D.: Council of the Secondary Technical School for EE,

Košice (delegate of the FEI TU Košice).

- PERDUKOVÁ, D.: Program Committee of 19th Scientific Conference of Young Researchers of the Faculty of Electrical Engineering and Informatics, Technical University of Košice – SCYR 2019.
- PERDUKOVÁ, D.: Member of International Scientific Committee of International Scientific Symposium Elektroenetŕgetika 2019, Stará Lesná, 16.-18. September 2019.
- PERDUKOVÁ, D.: Programm committee member of 19th International Conference on Electrical Drives and Power Electronics – EDPE 2019, 24-26 September 2019, The High Tatras.
- KOVÁČOVÁ, I., (chairman), DUDRIK, J., GIRMAN, M., PERDUKOVÁ, D., ZÁSKALICKÝ, P.: Members of board for the PhD. Study in Electrical Systems at FEI TU Košice.

6.5. National Educational Projects

6.6. Editorial Boards

- BOBER, P. Editorial board of journal "Quality, Innovation, Prosperity" (Kvalita, Inovácia, Prosperita), ISSN 1335-1745 (print), ISSN 1338-984X (online).
- DUDRIK, J. – Member of the Series Editorial Board of Annals of the Academy of Romanian Scientists.
- DUDRIK, J.: Editorial board of Transactions on Electrical Engineering, Czech Republic, ISSN 1805-3386.
- DUDRIK, J.: International Editorial Board of Power Electronics and Drives, Wroclaw, Poland, ISSN: 2451-0262, eISSN: 2543-4292.
- FEDÁK, V.: Editorial board of the Journal "Przeglad Elektrotechniczny" (Polish Academy of Sciences, Warsszaw, http://www.red.pe.org.pl/), ISSN 0033-2097, e-ISSN 2449-9544.
- FEDOR, P: Editorial board of Acta Electrotechnica et Informatica – AEI. Journal of the Faculty of Electrical Engineering and Informatics. ISSN 1335-8243.
- KYSLAN, K; Associate Editor of journal „Power Electronics and Drives", Wroclaw, Poland, ISSN 2543-4292.
- PERDUKOVÁ, D.: Editorial board of Elektroenergetika journal, ISSN 1337-6756.
- PERDUKOVÁ, D.; FEDÁK, V.; DUDRIK, J.; ĎUROVSKÝ, F.; FEDOR, P.; GIROVSKÝ, P.; LACKO, M.; KYSLAN, K.; PÁSTOR, M.: Editorial board of Elektrotechnické listy, ISSN 2453-8981.
- ZÁSKALICKÝ, P.: Editorial board of Acta Technica CSAV. Journal of Czech Academy of Sience, Praque. Czech Republic. ISSN 0001-7043.
- ZÁSKALICKÝ, P.: Editorial board of KOMEL, Branzowy osrodek badavczo-rozwojovy Maszyn elektrycznych, Katowice, Poland. ISSN 0239-3646.

7. THESESDefened Ph.D. Theses in 2019

- BOROVSKÝ, T.: *Drive Control of Profile Rolling Mills*. Supervisor: Ďurovský, F.
- SUCHÝ, Ľ.: *Optimization of Switch Reluctance Motor Drive and Possibilities of Torque Ripple Reduction.* Supervisor: Ferková, Ž.
- ÜVEGES, R.: *Control of Robotic Platform in Unknown Environtment.*

Supervisor: Ďurovský, F.

Thesis type	Bachelor	Master	Doctoral
Number	22	18	3

8 OTHER ACTIVITIES

8.1. Symposia, Workshops, Conferences

- 19th *International Conference on Electrical Drives and Power Electronics* (EDPE 2019), 24-26 September 2019, Hotel Atrium, The High Tatras, Slovakia. *organized by the department*

8.2. Projects for Industry

- *Electromagnetic design of rotors for 3-phase synchronous reluctance motors.P = 3 kW,* For CAG Electric Machinery, Český Brod. Co-ordinator: FERKOVÁ, Ž.
- *Electromagnetic design of rotor geometry for 3-phase synchronous reluctance motors with P = 1,5 kW.* For CAG Electric Machinery, Český Brod. Co-ordinator: FERKOVÁ, Ž.
- *Techncal support at design and measurements of power converter for synchronous reluctance motor* For CAG Electric Machinery, Český Brod. Co-ordinator: FERKOVÁ, Ž.
- *Training on technological control*. For Siemens Slovakia. Co-ordinator: ĎUROVSKÝ, F.
- *Devepolment of control for drive on steam generator fragmenter*. For SjF TU Košice, Co-ordinator: ĎUROVSKÝ, F.
- *Desing of polarity switching for DC power supply*. For Environcentrum, Košice, Co-ordinator: LACKO, M.; PÁSTOR, M.

8.3. Student Competitions and Rewards

8.4. Compositions for Dissertation Examinations

- SMOLEŇ, P.: *Control of Selected Nodes of Continuous Production Lines*. Supervisor: Ďurovský, F.

9 PUBLICATIONS

9.1. Books

9.2. Textbooks (3)

[1] DUDRIK, Jaroslav: **Výkonová elektronika** (in Slovak). (Title in English: Power Electronics). 1st edition.Košice. Technical University of Košice. 2019. 98 p. [CD-ROM]. - ISBN 978-80-553-3225-3.

[2] DUDRIK, Jaroslav: **Výkonové polovodičové systémy** (in Slovak). (Title in English: Power Semiconductor Systems). 1st edition. Košice. Technical University of Košice. 2019. 88 p. [CD-ROM]. ISBN 978-80-553-3254-3.

[3] GIROVSKÝ, Peter: **Snímače a meranie neelektrických veličín.** (in Slovak). (Title in English: Sensors and measurement of nonelectrical variables). Technical University of Košice. 2019. 152 p. [CD-ROM]. ISBN 978-80-553-

3351-9.

[4] GIROVSKÝ, Peter: **Sensors and measurement of nonelectrical variables.** Technical University of Košice. 2019. 153 p. [CD-ROM]. ISBN 978-80-553-3358-8.

[5] KYSLAN, Karol - ĎUROVSKÝ, František: **SINAMICS S120 Training Guide for Commissioning with STARTER Software.** 1st edition. Košice: Technical University of Košice. 2019. 73 p. [CD-ROM]. - ISBN 978-80-553-3371-7.

9.3. Scientific Journals

Journals indexed in Thomson Reuters "Current Contents" database

[1] ZGODAVOVÁ, Kristína - BOBER, Peter - SÜTŐOVÁ, Andrea - LENGYELOVÁ, Kristína: **Supporting sustainable entrepreneurship in injection molding of plastic parts by optimizing material consumption.** 2019. In: Przemysł Chemiczny : Chemical Industry. - Warszawa (Poland): SIGMA-NOT Vol. 98, No. 3 (2019), pp. 399-407 [print]. - ISSN 0033-2496.

[2] MAGURA, Daniel - KYSLAN, Karol - PADMANABAN, Sanjeevikumar - FEDÁK, Viliam: **Distribution of the Strip Tensions with Slip Control in Strip Processing Lines.** 2019. In: Energies. Vol. 12, No. 15 (2019), pp. 3010-3010 [online]. - ISSN 1996-1073 (online): *https://www.mdpi.com/1996-1073/12/15/3010*.

[3] ANANTHAVIJAYAN, Ramesh - SHANMUGAM, Prabhakar Karthikeyan - PADMANABAN, Sanjeevikumar - HOLM-NIELSEN, Jens - Bo BLAABJERG, Frede - FEDÁK, Viliam: **Software Architectures for Smart Grid System-A Bibliographical Survey.**2019.In: Energies. - Basel (Switzerland). Multidisciplinary Digital Publishing Institute. Vol. 12, No. 6 (2019), pp. 1183-1183 [online]. - ISSN 1996-1073 (online): *https://www.mdpi.com/1996-1073/12/6/1183*.

[4] VAVILAPALLI, Sridhar - UMASHANKAR, S. - PADMANABAN, Sanjeevikumar - RAMACHANDARAMURTHY, Vigna K. - MIHET-POPA, Lucian - FEDÁK, Viliam: **Three-stage control architecture for cascaded H-Bridge inverters in large-scale PV systems - Real time simulation validation.** 2019. In: Applied Energy. - Amsterdam (Niederland). Elsevier No. 229 (2019), pp. 1111-1127 [print]. - ISSN 0306-2619.

[5] MIHALIKOVÁ, Mária - ZGODAVOVÁ, Kristína - BOBER, Peter - SÜTŐOVÁ, Andrea: **Prediction of Bake Hardening Behavior of Selected Advanced High Strength Automotive Steels and Hailstone Failure Discussion.** 2019.In: Metals. - Basel (Switzerland). Multidisciplinary Digital Publishing Institute. Vol. 9, No. 9 (2019), s. 1-12 [online]. - ISSN 2075-4701 (online).

[6] PERDUKOVÁ, Daniela – FEDOR, Pavol – FEDÁK, Viliam - PADMANABAN Sanjeevikumar: **Lyapunov Based Reference Model of Tension Control in a Continuous Strip Processing Line with Multi-Motor Drive.** In: Electronics, Vol.8, Iss.1, 60, 2019. ISSN 2079-9292. Doi:10.3390/electronics8010060.

Foreign Journals

[1] FEDOR, Pavol - PERDUKOVÁ, Daniela: **Power Systems Emulator Based on DCS.** 2019. In: Innovations : International Scientific Journal. - Sofia (Bulgaria). Scientific Technical Union of Mechanical Engineering. Vol. 7, No. 2 (2019), pp. 77-79 [print, online]. - ISSN 2603-3763.

[2] KAŇUCH, Ján: **Zvyšovanie kvality výučby elektroniky na Technických univerzitách.** Využitie uzavretého PDCA cyklu vo výučbe. 2019. In:

International Multilingual Journal of Science and Technology. Vol. 4, No. 3 (2019), pp. 466-473 [online]. - ISSN 2528-9810 (online).
[3] KAŇUCH, Ján - FERKOVÁ, Želmíra: **Operation of five-phase induction motor with three-phase supply.** 2019. In: Maszyny Elektryczne : Zeszyty Problemowe. Vol. 121, No. 1 (2019), pp. 121-127 [print]. - ISSN 0239-3646.
[4] KYSLAN, Karol - ŠLAPÁK, Viktor - LACKO, Milan - ĎUROVSKÝ, František: **Automatické generovanie kódu z prostredia MATLABSimulink a porovnanie vybraných prostriedkov pre jeho realizáciu.** 2019.In: Elektrorevue : časopis pro elektrotechniku. - Brno (CZ) : International Society for Science and Engineering. Vol. 21, No. 3 (2019), pp. 68-75 [online]. - ISSN 1213-1539. *http://www.elektrorevue.cz/cz/clanky/zpracovani-signalu/0/automaticke-generovanie-kodu-z-prostredia-matlab-simulink-a-porovnanie-vybranych-prostriedkov-pre-jeho-realizaciu/*
[5] ZÁSKALICKÝ, Pavel: **Electromagnetic torque ripple waveform calculation of a five-phase pentacle connected in under one phase failure.** 2019.In: Maszyny Elektryczne : Zeszyty Problemowe. Vol. 121, No. 1 (2019), pp. 129-134 [print]. - ISSN 0239-3646.
[6] RICHTER, Aleš - BARTO, Miroslav – FERKOVÁ, Želmíra: *Analýza fyzikálních účinku pulzníího magnetického pole užívaného ve fyzioterapii*, Ročenka ELEKTRO 2019,Praha ČR, ISBN 978-80-86534-30-5.

Journals indexed in Web of Science or Scopus databases

[1] KAŇUCH, Ján - GIROVSKÝ, Peter: **Analysis of the PM motor with external rotor for direct drive of electric wheelchair.** 2019. In: Communications = Komunikácie : Scientific Letters of the University of Žilina. - Žilina (Slovakia) : Publ.: EDIS Vol. 21, No. 3 (2019), pp. 66-71 [print]. - ISSN 1335-4205
Spôsob prístupu: *https://www.scopus.com/record/display.uri?eid=2-s2.0-85071438211&origin=resultslist&sort=plf-f&src=s&st1=kanuch+J&st2=&sid=234ae7585eac51e1999493452fdda74a&sot=b&sdt=b&sl=21&s=AUTHOR-NAME%28kanuch+J%29&relpos=0&citeCnt=0&searchTerm=*

National Journals

[1] BEDNARČÍK, Martin - LACKO, Milan - BIROŠ, Milan: **Modulárny panel prepínačov.** 2019.In: Elektrotechnické listy : Česko-Slovenský vedecký časopis. Vol. 4, No 3 (2019), pp. 1-4 [online]. - ISSN 2453-8981 (online): *http://elektrotechnickelisty.eu/casopis/rocnik_IV/clanky/EL_17_2019.pdf*.
[2] BOROVSKÝ, Tomáš: **Optimalizácia nastavenia valcovacích medzier pri valcovaní profilov.** 2019. In: Elektrotechnické listy : Česko-Slovenský vedecký časopis. Vol.4, No 1 (2019), pp. 1-4 [online]. - ISSN 2453-8981 (online): *http://elektrotechnickelisty.eu/casopis/rocnik_IV/clanky/EL_1_2019.pdf*.
[3] DUDRIK, Jaroslav: **PWM DC-DC menič sjednoduchousekundárnou vypínacou sieťou.** 2019. In: Elektrotechnické listy : Česko-Slovenský vedecký časopis. Vol. 4, No. 3 (2019), pp. 1-5 [online]. - ISSN 2453-8981 (online): *http://elektrotechnickelisty.eu/casopis/rocnik_IV/clanky/EL_15_2019.pdf*.
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1 (2019), p. 33-36 [print]. - ISSN 1337-6756.
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9.4. Other publications (papers in conference proceedings, etc.)

Publication Type	Confereces		Other
	Foreign	Home	
Number	11	8	2