DEPARTMENT OF ELECTRICAL ENGINEERING AND MECHATRONICS

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Head of Department
prof. Ing. Daniela Perduková, PhD.
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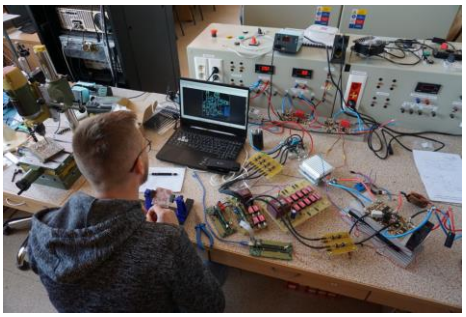
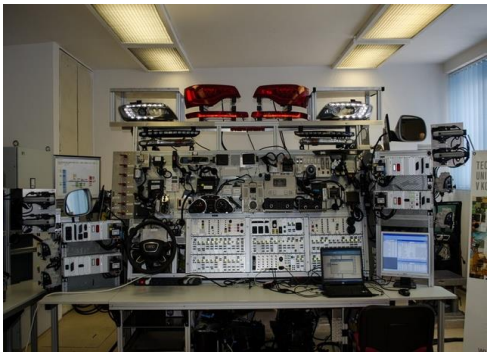
1 DEPARTMENT'S PROFILE

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.
Associate Professors:	doc. Ing. František Ďurovský, PhD. doc. Ing. Želmíra Ferková, PhD. doc. Ing. Peter Girovský, PhD. doc. Ing. Ján Kaňuch, PhD. doc. Ing. Karol Kyslan, PhD. doc. Ing. Milan Lacko, PhD. doc. Ing. Marek Pástor, PhD. doc. Ing. Jaroslava Žilková, PhD.
Assistant Professors:	Ing. Ján Bačík, PhD. Ing. Peter Bober, PhD. Ing. Viktor Šlapák, PhD.
Senior Scientists:	Ing. Peter Hajsák doc. Ing. Viliam Fedák, PhD. doc. Ing. Michal Girman, PhD. doc. Ing. Michal Kostelný, CSc. prof. Ing. Jaroslav Timko, CSc. prof. Ing. Pavel Záskalický, PhD.
Technical Staff:	Zuzana Olexová
Full time Ph.D. Students:	Ing. Stanislav Alexovič Ing. Juraj Biľanský (till June 2022) Ing. Dávid Bodnár Ing. Jozef Ivan (till June 2022) Ing. Daniel Marcin (since September 2022) Ing. Adrián Marcinek Ing.Lukáš Pancurák (since September 2022) Ing. Viktor Petro Ing. Richard Olexa (till June 2022)

3 LABORATORIES

- Power Electronics Laboratory
- Simulation Systems Laboratory (COSMOS, ProEngineer, MATLAB, PSpice, and applied SW, ABBRobotStudio, EPLAN, AVL)
- Laboratory of Industrial Automation
- Laboratory of Electrical Machines and Electrical Drives
- Laboratory of Controlled Electrical Drives
- Automotive Electrical Engineering Laboratory
- Laboratory of Electrical Devices and Applied Electronics
- Laboratory of Electric Drives Applications
- BSH Motor Control Laboratory
- 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
Automotive Electrical Systems	3th	2/2	Ďurovský
Industrial Electronics	3th	2/2	Kaňuch
Electrical Drives	4th	2/2	Žilková
Fundamentals of Microcomputer programming	4rd	2/2	Lacko
Modeling and Simulation in Electrical Engineering	4th	2/2	Fedák
Power Electronics	4th	3/3	Pástor
Sensors and Measurement of Nonelectrical Quantities	4th	2/2	Girovský
Industrial Control Systems	4th	2/2	Fedor
Pneumatic and Hydraulics Systems	4th	2/2	Bober
Controlled Electrical Drives	5th	2/2	Ďurovský
Fundamentals of Robotics	5th	2/2	Žilková
ManMachine Interface	5th	2/2	Perduková
Bachelor Project	5th	0/8	Supervisor
Bachelor Thesis	6th	3/9	Supervisor
Simulation of Production Systems	6th	2/2	Bober
Modeling of Electromechanical Systems	6th	2/2	Fedák
Projecting of Electrical Systems	6th	2/2	Lacko

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	1st	2/2	Dudrik
Non-linear Electro-Mechanical Systems	1st	2/2	Fedor

Servosystems	1st	2/3	Kyslan
Dynamic Phenomena of Electrical Machines	1st	2/2	Záskalický
Electrical Machines for Automation	1st	2/2	Ferková
Technology of Production in Electronics	1st	2/2	Slosarčík
Signal Processors	1st	2/3	Lacko/Šlapák
Applications of Digital Signal Microcontrollers	2nd	2/3	Šlapák
Vehicle Mechatronics	2nd	2/2	Ďurovský
Construction and Design of Converters	2nd	2/2	Dudrik
Control of Assembly Lines with Programming Controllers	2nd	2/2	Fedor
Diploma Project 1	2nd	0/4	Supervisor
Diploma Project 2	3rd	2/6	Supervisor
Mechatronic Production Systems	3rd	2/2	Ďurovský
Intelligent Control of Electrical Systems	3rd	2/2	Žilková
Three-Dimensional Modelling and Simulation	3rd	2/2	Ferková
Technology of Production in Electrotechnics	3rd	2/2	Girman
Design of Documentation in Electrical Engineering	3rd	1/3	Lacko
Diploma Thesis	4th	9/9	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

- *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)
- *HIL Emulator for Small Hydropower Plant Control. Project supported by the Slovak Research and Development Agency under the contract No. APVV-19-0210. Principal investigator: PERDUKOVÁ, D. (2020-2023).*
- *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).

- *Experimental Validation of Sensorless Control of PMSM using Integrated Converter*. Project supported by the Faculty of Electrical Engineering and Informatics, Technical University of Kosice, Slovakia, under the Grant FEI-2022-86. Principal investigator: PETRO, V. (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, Poland
- Széchenyi István University, Győr, Hungary
- Delft University of Technology, The Netherlands
- Czech Academy of Science, Prague, Czech Republic.
- University of Oradea, Romania
- University of Maribor, Slovenia
- University of Zagreb, Croatia
- University of Novi Sad, Serbia
- CAG Electric Machinery, Český Brod, Czech Republic
- Wroclaw University of Technology, Wroclaw, Poland

6.2.1. Visits of Staff Members to Foreign Institutions

- BODNÁR, D.: TU Delft (NL). April 2022 – January 2023.
- ĎUROVSKÝ, F.: Technical University of Liberec (CZ), May 2022.
- FEDÁK, V., FERKOVÁ, Ž., KYSLAN, K., MARCINEK, A., PÁSTOR, M., PETRO, V.: PEMC 2022, Faculty of Electrical Eegineering and Computer science, Transilvania University of Brasov, Brasov (RO), September 2022.
- FERKOVÁ, Ž.: Technical University of Liberec (CZ), April 2022.
- FERKOVÁ, Ž.: Conference Ansys 2022, TechSoft Engineering Kurdějov (CZ). May 2022.

- FERKOVÁ, Ž.: University of Technology Brno (CZ), Oktober 2022.
- FERKOVÁ, Ž.: VSB-Technical University of Ostrava (CZ), november 2022.
- KAŇUCH, J.: KOMEL 2022, Katowice (PL), September 2022.
- PETRO, V.: Wroclaw University of Science and Technology (PL), April 2022 – July 2022.

6.3. Membership in International Organizations, Societies and Committees

- DUDRIK, J; FERKOVÁ, Ž, KYSLAN: IEEE members.
- FEDÁK, V.: Power Electronics and Motion Control Council (PEMC). Vice chairman, AwardCom chair and Special session chair of the 20th IEEE-PEMC Power Electronics and Motion Control Conference, www.ieee-pemc2022.org, Brasov (RO) 25 - 28 September 2022.
- FEDÁK, V.: Member of an Expert evaluation jury for awarding products within the ZLATÝ AMPER competition for the most beneficial exhibit at the 30th International trade fair on electrical engineering, electronics, automation, communication and safety technology AMPER 2022. Brno (CZ). May 17-20, 2022.
- PERDUKOVÁ, D.: Member of Programme Committee: 17th International Conference on Soft Computing Models in Industrial and Environmental Applications – SOCO 2022, Salamanca, Spain, 5.-7. September 2022.

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.
- FERKOVÁ, Ž.: Member of Technical Standards Commission on Electrical Machines in Slovak Republic.
- PERDUKOVÁ, D.: Council of the Secondary Technical School for EE, Košice (delegate of the FEI TU Košice).
- PERDUKOVÁ, D.: Program Committee of 21th Scientific Conference of Young Researchers of the Faculty of Electrical Engineering and Informatics, Technical University of Košice – SCYR 2022.
- PERDUKOVÁ, D.: Member of board for the PhD. Study in Electrical Engineering 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.
- ĎUROVSKÝ, F.: Guest Editor of Special Issue “Applications of Modern Methods to Control of Electric Drives" published in Energies ISSN 1996-

1073 (2022).

- FEDÁK, V.: Editorial board of the Journal “Przeglad Elektrotechniczny” (Polish Academy of Sciences, Warszaw, 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.
- GIROVSKÝ, P: Topic Editor of journal „Electronics“, MDPI, 2079-9292.
- 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.
- 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 Theses in 2022

- IVAN, J.: *Dynamic torque emulator*. Supervisor: Ďurovský, F.

Thesis type	Bachelor	Master	Doctoral
Number	34	16	1

8 OTHER ACTIVITIES

8.1. Symposia, Workshops, Conferences

8.2. Projects for Industry

- *Basics of Electrical Engineering*. For Siemens Healthcare s.r.o, Košice. Co-ordinator: Bober, P., 2022.
- *Control of industrial water supply for U.S.Steel Košice.* For Siemens Large Drives s.r.o., Košice. Co-ordinator: Ďurovský, F., 2022.

8.3. Student Competitions and Rewards

- PETRO, V.: SCYR 2022. Dean Prize for Progress, Electrical & Electronics Engineering Section, 2nd year PhD students.

8.4. Compositions for Dissertation Examinations

- ALEXOVIČ, S.: *Drone autonomous control in non GPS signal environment*. Supervisor: Lacko, M.
- MARCINEK, A.: *Control of Multiport Power Converters*. Supervisor: Ďurovský, F.
- PETRO, V.: *Sensorless Control of Permanent Magnet Synchronous Machine for Low Speed Operation*. Supervisor: Kyslan, K.

9 PUBLICATIONS

9.1. Books and book chapters

[1] FEDOR, Pavol - PERDUKOVÁ, Daniela - BOBER, Peter - FEDOR, Marek: **New Stable Non-Vector Control Structure for Induction Motor Drive**. 2022. In: *Prime Archives in Applied Sciences* (Editors: Helen Henninger and Andrey Suzdaltsev). Hyderabat, India: Vide Leaf. s. [1-34], Spôsob prístupu: *https://videleaf.com/product/prime-archives-in-applied-sciences/*, ISBN 978-93-92117-54-1

9.2. Textbooks

9.3. Scientific Journals

Journals indexed in Thomson Reuters "Current Contents" database

[1] KUCHAR, Martin - PALACKÝ, Petr - PERDUKOVÁ, Daniela - SOBEK, Martin: **Compensation of torque-producing stator current error for vector-controlled induction motor drives.** 2022. In: Energies. Bazilej (Švajčiarsko): Multidisciplinary Digital Publishing Institute, Vol. 15, Issue 3 (2022), p. [1-14] [online]. ISSN 1996-1073 (online). Access: *http://dx.doi.org/10.3390/en15030815*.

[2] KELLNER, Jakub - KAŠČÁK, Slavomír - FERKOVÁ, Želmíra: **Investigation of the properties of a five-phase induction motor in the introduction of new fault-tolerant control.** 2022. In: Applied sciences. Bazilej (Švajčiarsko): Multidisciplinary Digital Publishing Institute. Vol. 12, Issue 4 (2022), p. [1-25] [online]. ISSN 2076-3417 (online). Access: *https://doi.org/10.3390/app12042249*.

[3] KYSLAN, Karol - LACKO, Milan - FERKOVÁ, Želmíra - PETRO, Viktor - PADMANABAN, Sanjeevikumar - PERDUKOVÁ, Daniela: **Current limitation method for V/f control of five-phase induction machines.** 2022. In: International Transactions on Electrical Energy Systems. Hoboken (USA): John Wiley & Sons (2022), p. [1-12] [online]. ISSN 20507038 (online) Access: *http://dx.doi.org/10.1155/2022/5165666*.

[4] ZGODAVOVÁ, Kristína - BOBER, Peter - URBANČÍKOVÁ, Nataša - SANTOS, Gilberto - SÜTŐOVÁ, Andrea: **Forecasting the future excellence: 30 years of evaluating service organizations in Slovakia.** 2022. In: Applied sciences. Bazilej (Švajčiarsko): Multidisciplinary Digital Publishing Institute Vol. 12, Issue 14 (2022), p. [1-15] [online]. ISSN 2076-3417 (online). Access: *http://dx.doi.org/10.3390/app12146856*.

[5] ŠLAPÁK, Viktor - IVAN, Jozef - KYSLAN, Karol - HRIC, Matúš - ĎUROVSKÝ, František - PAULIŠIN, Dušan - KOČIŠKO, Marek: **Measurement and Modelling of a Cycloidal Gearbox in Actuator with Permanent Magnet Synchronous Machine.** 2022. In: Machines. Basel (Švajčiarsko): Multidisciplinary Digital Publishing Institute. Vol. 10, Issue 5 (2022), p. [1-13] [online]. ISSN 2075-1702 (online). Access: *http://dx.doi.org/10.3390/machines10050344*.

[6] KYSLAN, Karol - PETRO, Viktor - BOBER, Peter - ŠLAPÁK, Viktor - ĎUROVSKÝ, František - DYBKOWSKI, Mateusz - HRIC, Matúš: **A Comparative Study and Optimization of Switching Functions for Sliding-Mode Observer in Sensorless Control of PMSM.** 2022. In: Energies. Bazilej (Švajčiarsko): Multidisciplinary Digital Publishing Institute. Vol. 15, Issue 7

(2022), p. [1-17] [online]. - ISSN 1996-1073 (online). Access: *http://dx.doi.org/10.3390/en15072689*.

[7] BOBER, Peter - FERKOVÁ, Želmíra: **Firing angle adjustment for switched reluctance motor efficiency increasing based on measured and simulated data.** 2022. In: Electrical Engineering: Archiv für Elektrotechnik. Berlin (Nemecko): Springer Science+Business Media B.V. Vol. 104, Issue 1 (2022), p. 191-202 [print]. ISSN 0948-7921. Access: *http://dx.doi.org/10.1007/s00202-021-01346-x*.

Foreign Journals

[1] PERDUKOVÁ, Daniela - FEDOR, Pavol - ĎURČANSKÝ, Dalibor: **Concept of an energy system emulator.** 2022. In: Mathematical modelling: international scientific journal. Sofia (Bulharsko): Scientific-technical union of mechanical engineering industry 4.0 Vol. 6, Issue 2 (2022), p. 59-62 [print, online]. ISSN 2535-0986

[2] KAŇUCH, Ján - GIROVSKÝ, Peter: **Disc Switched Reluctance Motor with High Dynamics.** 2022. In: Maszyny Elektryczne: Zeszyty Problemowe. Katowice (Poľsko): Łukasiewicz - Instytut Przemysłu Organicznego. Vol. 127, Issue 1 (2022), p. 59-66 [print]. ISSN 0239-3646.

[3] ZÁSKALICKÝ, Pavel - KAŇUCH, Ján: **Electromagnetic torque ripple diminution of a five-phase asynchronous motor with one phase open circuit fault.** 2022. In: Maszyny Elektryczne: Zeszyty Problemowe. Katowice (Poľsko): Łukasiewicz - Instytut Przemysłu Organicznego. Vol. 127, Issue 1 (2022), p. 51-57 [print]. ISSN 0239-3646.

[4] GIROVSKÝ, Peter - KAŇUCH, Ján: **Analysis of the power supply influence on the universal motor.** 2022. In: Power Electronics and Drives. Varšava (Poľsko): SCIENDO. Vol. 7, Issue 42 (2022), p. 103-111. ISSN 2543-4292 (online). Access: *http://www.ped.pwr.edu.pl/pdf-150515-76369?filename=Analysis%20of%20the%20power.pdf*.

Journals indexed in Web of Science or Scopus databases

[1] ALEXOVIČ, Stanislav - LACKO, Milan - BAČÍK, Ján ml. - PERDUKOVÁ, Daniela: **Handheld 3D Scanner Based on Intel RealSense Depth and Tracking Cameras.** 2022. In: Artificial Intelligence Trends in Systems. Cham (Švajčiarsko): Springer Nature p. 226-235 [online]. ISBN 978-3-031-09075-2, ISSN 2367-3370. Access: *http://dx.doi.org/10.1007/978-3-031-09076-9_22*.

[2] FEDOR, Marek - FEDOR, Pavol - PERDUKOVÁ, Daniela - FEDÁK, Viliam: **Fuzzy model development for a continuous dynamic black-box system.** 2022. In: 2022 IEEE 20th International Power Electronics and Motion Control Conference. Brašov (Rumunsko): Institute of Electrical and Electronics Engineers p. 225-228. ISBN 978-1-6654-9682-7. ISSN 2469-8741. Access: *http://dx.doi.org/10.1109/pemc51159.2022.9962875*.

National Journals

[1] PETRO, Viktor - KYSLAN, Karol: **Sensorless control of PMSM in low speed region using HF pulse signal injection method.** 2022. In: Acta Electrotechnica et Informatica. Košice (Slovensko): Fakulta elektrotechniky a informatiky Roč. 22, č. 1 (2022), s. 18-23 [print, online]. ISSN 1335-8243 Access: *https://doi.org/10.2478/aei-2022-0003*.

[2] FERKOVÁ, Želmíra - KAŇUCH, Ján - GIROVSKÝ, Peter - ĎUROVSKÝ, František - PÁSTOR, Marek: **Asynchrónne motory v priemyselnej praxi**

(2). 2022. In: ATP journal: priemyselná automatizácia a informatika: odborný mesačník o priemyselnej automatizácii, informatike a robotike. Bratislava (Slovensko): HMH Roč. 29, č. 1 (2022), s. 26-29 [print, online]. ISSN 1335-2237. Access: *https://www.atpjournal.sk/buxus/docs/casopisy_cele/ATP%20Journal%201%202022.pdf#page=28*.

[3] GIROVSKÝ, Peter - ĎUROVSKÝ, František - FERKOVÁ, Želmíra - KAŇUCH, Ján - PÁSTOR, Marek: **Asynchrónne motory v priemyselnej praxi (3).** 2022. In: ATP journal: priemyselná automatizácia a informatika: odborný mesačník o priemyselnej automatizácii, informatike a robotike. Bratislava (Slovensko): HMH Roč. 29, č. 2 (2022), s. 45-47 [print, online]. ISSN 1335-2237. Access: *https://www.atpjournal.sk/buxus/docs/casopisy_cele/ATP%20Journal%202%202022.pdf#page=47*.

[4] GIROVSKÝ, Peter - ĎUROVSKÝ, František - FERKOVÁ, Želmíra - KAŇUCH, Ján - PÁSTOR, Marek: **Asynchrónne motory v priemyselnej praxi (4).** 2022. In: ATP journal: priemyselná automatizácia a informatika: odborný mesačník o priemyselnej automatizácii, informatike a robotike. Bratislava (Slovensko): HMH Roč. 29, č. 3 (2022), s. 48-50 [print, online]. ISSN 1335-2237. Access: *https://www.atpjournal.sk/buxus/docs/casopisy_cele/ATP%20Journal%203%202022.pdf#page=50*.

[5] GIROVSKÝ, Peter - ĎUROVSKÝ, František - FERKOVÁ, Želmíra - KAŇUCH, Ján - PÁSTOR, Marek: **Asynchrónne motory v priemyselnej praxi (5).** 2022. In: ATP journal: priemyselná automatizácia a informatika: odborný mesačník o priemyselnej automatizácii, informatike a robotike. Bratislava (Slovensko): HMH Roč. 29, č. 4 (2022), s. 54-57 [print, online]. ISSN 1335-2237. Access: *https://www.atpjournal.sk/buxus/docs/casopisy_cele/ATP%20Journal%204%202022.pdf#page=56*.

[6] GIROVSKÝ, Peter - ĎUROVSKÝ, František - FERKOVÁ, Želmíra - KAŇUCH, Ján - PÁSTOR, Marek: **Asynchrónne motory v priemyselnej praxi (6).** 2022. In: ATP journal: priemyselná automatizácia a informatika: odborný mesačník o priemyselnej automatizácii, informatike a robotike. Bratislava (Slovensko): HMH Roč. 29, č. 5 (2022), s. 54-57 [print, online]. ISSN 1335-2237. Access: *https://www.atpjournal.sk/buxus/docs/casopisy_cele/ATP%20Journal%205%202022.pdf#page=56*.

[7] GIROVSKÝ, Peter - ĎUROVSKÝ, František - FERKOVÁ, Želmíra - KAŇUCH, Ján - PÁSTOR, Marek: **Asynchrónne motory v priemyselnej praxi (7).** 2022. In: ATP journal: priemyselná automatizácia a informatika: odborný mesačník o priemyselnej automatizácii, informatike a robotike. Bratislava (Slovensko): HMH Roč. 29, č. 6 (2022), s. 43-45 [print, online]. ISSN 1335-2237. Access: *https://www.atpjournal.sk/buxus/docs/casopisy_cele/ATP%20Journal%206%202022.pdf#page=45*.

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9.4. **Other publications** (papers in conference proceedings, etc.)

Publication Type	Confereces		Other
	Foreign	Home	
Number	3	26	-