

HYDRAULIC AND PNEUMATIC DRIVES AND CONTROLS 2023

Conference agenda

Wednesday, 11 October 2023

Place: Pakoszków

10⁰⁰ – 12³⁰ Participants registration

12³⁰ – 13³⁰ Lunch - restaurant of the Pakoszków Palace

13³⁰ – 15⁰⁰ OPENING OF THE CONFERENCE

- Welcome of Honorary Guests, Sponsors and Participants

SESSION I

Chairman - Jarosław STRYCZEK, Andrzej MILECKI

- *Model based design of the hydraulic actuator* Petr NOSKIEVIC, Jan MILATA
- *Hydraulic modules of mobile robotic bricklaying system* Ryszard DINDORF, Jakub TAKOSOGLU, Piotr WOS, Łukasz CHŁOPEK
- *Computational and experimental study of plastic valves with 3D printed poppets* Urszula WARZYŃSKA, Michał BANAS, Jarosław STRYCZEK
- *EHLA-Coated Carbide-Reinforced Control Plates in Axial Piston Pumps First Results from Real-Life Application* Achill HOLZER, Stephan KOSS, Jacqueline ROSEFORT, Johannes Henrich SCHLEIFENBAUM, Katharina SCHMITZ
- Discussion

15⁰⁰ – 15¹⁵ Coffee break

15¹⁵ – 16⁴⁵ SESSION II PUMPS

Sponsorship - Bosch Rexroth

Chairman - Arkadiusz GIERCZAK, Urszula WARZYŃSKA



- *Kryzys energetyczny, zrównoważony rozwój - Jak zmniejszyć koszty i zużycie energii elektrycznej w aplikacjach hydrauliki siłowej w dobie kryzysu energetycznego.* Arkadiusz GIERCZAK Bosch Rexroth
- *A New Approach in Hydrostatic Drives: "Digital" Pumps* Ahmed Jan ZUBAIR, Krzysztof KEDZIA, Dariusz PROSTANSKI
- *Digital control of a vane pump* Edward LISOWSKI, Grzegorz FILO
- CETOP – video conference
- Discussion

16⁴⁵ – 17⁰⁰ Coffee break

17⁰⁰ – 18³⁰ SESSION III SPECIAL APPLICATIONS ½

Sponsorship - Parker

Chairman - Filip Koziół, Krzysztof KĘDZIA



- *Produkty do zastosowań w aplikacjach wodorowych* A. SZELĄG,
- *Produkty elektromechaniczne w odniesieniu do energooszczędności w aplikacjach przemysłowych* Filip KOZIÓŁ
- *Energy-saving in hydraulic drives in experimental approach and biomimetic similarity* Mykola KARPENKO, Michał STOSIAK, Olegas PRENTKOVSKIS, Paulius SKACKAUSKAS
- *Badania elementów hydraulicznych do wciągarek cumowniczych i kotwicznych przeznaczonych do pracy w warunkach arktycznych* Janusz RAJDA
- Discussion

18³⁰ – 19¹⁵ Meeting of the Scientific Committee

20⁰⁰ – 24⁰⁰ Gala Dinner - restaurant of the Pakoszków Palace

8⁰⁰ – 9⁰⁰ Breakfast

9⁰⁰ – 11³⁰ Trip to the plant „Julia”

12⁰⁰ – 12³⁰ Coffee break

12³⁰ – 13³⁰ SESSION IV CYLINDERS

Chairman - Paweł ŚLIWIŃSKI, Ryszard DINDORF

- *Specificity of designing hydraulic cylinders made of plastics* Piotr STRYCZEK
- *Stand for testing hydraulic actuators with modified working surfaces* Justyna SKOWRONSKA, Andrzej KOSUCKI, Łukasz STAWINSKI
- *Sterowanie podwójnym, liniowo-obrotowym serwonapędem elektrohydraulicznym.* Andrzej MILECKI
- *Discussion*

13³⁰ – 14³⁰ Lunch - restaurant of the Pakoszków Palace

14³⁰ – 15⁴⁵ SESSION V SPECIAL APPLICATIONS 2/2

Chairman - Ryszard JASIŃSKI, Petr NOSKIEVIC,

- *New combined centrifuge for cleaning the working fluids of hydraulic drives from mechanical contaminations* Georgy GURYANOV, Mikhail DOUDKIN, Alina KIM, Olga VASILIEVA
- *Mobile machine with hydrostatic hybrid drive train* Radu-Iulian RADOI, Catalin DUMITRESCU, Bogdan TUDOR, Stefan SEFU, Ciprian CULACHE
- *Experimental study of the phenomenon of luminescence in electrodynamic processes during hydrodynamic cavitation* Ihor NOCHNICHENKO, Vladyslav KRYVOSHEIEV, Oleg YAKHNO, Dmytro KOSTIUK
- *Technology of hydrogen production from aluminum scrap by using ultrasonic cavitation* Oleksandr LUHOVSKYI, Andrii ZILINSKYI, Alina SHULHA, Ihor GRYSHKO, Ihor NOCHNICHENKO, Dmytro KOSTIUK
- *Discussion*

15⁴⁵ – 16⁰⁰ Coffee break

16⁰⁰ – 17⁴⁵ SESSION VI SYSTEMS 1/2

Chairman - Mykola KARPENKO, Michał STOSIAK

- *Spool valve stability and sealing land deformation* Rudolf SCHEIDL, Bernhard MANHARTSGRUBER
- *Volumetric control of hydrostatic drives system according to the principle of the forced flow* Piotr WOS, Ryszard DINDORF, Jakub TAKOSOGLU, Łukasz CHŁOPEK
- *Control strategy for a hardware in the loop test bench* Christian HAAS, Katharina SCHMITZ
- *Innovative modular load sensing B-type system for industrial standard ISO 4401 subplate* Janusz RAJDA, Edward LISOWSKI, Grzegorz FILO
- *Preliminary tests for the use of hydrostatic transmission with oscillating energy flow* Kacper DABEK, Piotr OSINSKI, Krzysztof KĘDZIA
- *Sterowanie podwójnym, liniowo-obrotowym serwonapędem elektrohydraulicznym.* Andrzej Milecki
- *Discussion*

17⁴⁵ – 18⁰⁰ Coffee break

18⁰⁰ – 19³⁰ SESSION VII TESTING METHODS

Chairman - Edward LISOWSKI, Jakub TAKOSOGLU

- *The methodology for determining the theoretical and actual working volume of a hydraulic motor based on the characteristics of effective absorbency versus pressure drop in the motor* Paweł ŚLIWIŃSKI
- *Effect of simultaneous valve closures in hydraulic piping systems* Kamil URBANOWICZ, Igor HALUCH, Anton BERGANT, Adam DEPTUŁA, Paweł ŚLIWIŃSKI
- *Comparative tests of the impact of modifications to the hydrostatic drive system of blasting utility vehicle ws-153/173* Tomasz SIWULSKI, Mateusz WOLTER

- **Development and testing of a hydrotronic control system for a prototype test bench for vibration isolation systems** Andrzej KOSIARA
- **Zastosowanie przetwornika z matrycą Czujników IR do nadzorowania pozycji serwonapędu elektrohydraulicznego.** Dominik Rybarczyk
- **Discussion**

20⁰⁰ – 24⁰⁰ Friendly evening - restaurant of the Pakoszów Palace

Friday 13 October 2023

8⁰⁰ – 9⁰⁰ Breakfast

9⁰⁰ – 10³⁰ **SESSION VIII PNEUMATICS AND OTHERS**
Chairman - Catalin DUMITRESCU, Wiesław FIEBIG

- **Rehabilitation tricycle with pneumatic drive system** Jakub TAKOSOGLU, Ryszard DINDORF, Piotr WOS, Jacek JEGIER, Andrzej STERNIK, Henryk WOLINSKI, Jan MARCINIAK, Jacek PUSZ, Jacek KROLSKI
- **Design of the stand for experimental tests of pneumatic bellows actuators** Jakub TAKOSOGLU, Kamil ZIEJEWSKI, Ryszard DINDORF, Piotr WOS, Łukasz CHŁOPEK
- **Rule-based expert system as a decision support tool in the analysis of the impact of vibrations on a microhydraulic valve** Adam DEPTUŁA, Marian A. PARTYKA, Kamil URBANOWICZ, Krzysztof TOWARNICKI, Anna M. DEPTUŁA, Rafał ŁUSZCZYNA, Mariusz ŁAPKA
- **Comparative analysis of the hydrostatic drive system for a midi wheel loader new version** Jakub TAKOSOGLU, Łukasz CHŁOPEK, Kamil ZIEJEWSKI, Ryszard DINDORF, Piotr WOS
- **Rozwój sterowania danfoss automotive w oparciu o sterownik plus+1 pc 036** Maciej ŁABIK
- **Discussion**

10³⁰ – 10⁴⁵ Coffee break

10⁴⁵ – 12³⁰ **SESSION IX PUMPS 2/2**
Chairman - Michał BANAS, Tadeusz ZŁOTO

- **Analysis of influence of type of material of pump elements on its operation during start-up in low ambient temperatures.** JASIŃSKI Ryszard
- **CFD Approach and Visualization of Fluid Flow in a Single Acting Vane Pump** Paulina SZWEMIN, Wiesław FIEBIG, Feng WANG, Piotr ANTONIAK
- **Modelling of the hydrostatic relief in the cylinder block of an axial piston pump** Tadeusz ZŁOTO, Grzegorz KLIMKOWSKI
- **Research on a composite micro-hose subjected to harmonic loading. Experimental approach** Michał STOSIAK, Łukasz PRZYBYLAK, Kamil URBANOWICZ, Adam Deptuła, Mykola KARPENKO, Paulius SKACKAUSKAS, Justas NUGARAS
- **Discussion**

12³⁰ – 13⁰⁰ **END OF THE CONFERENCE**

13⁰⁰ – 14⁰⁰ Lunch - restaurant of the Pakoszów Palace