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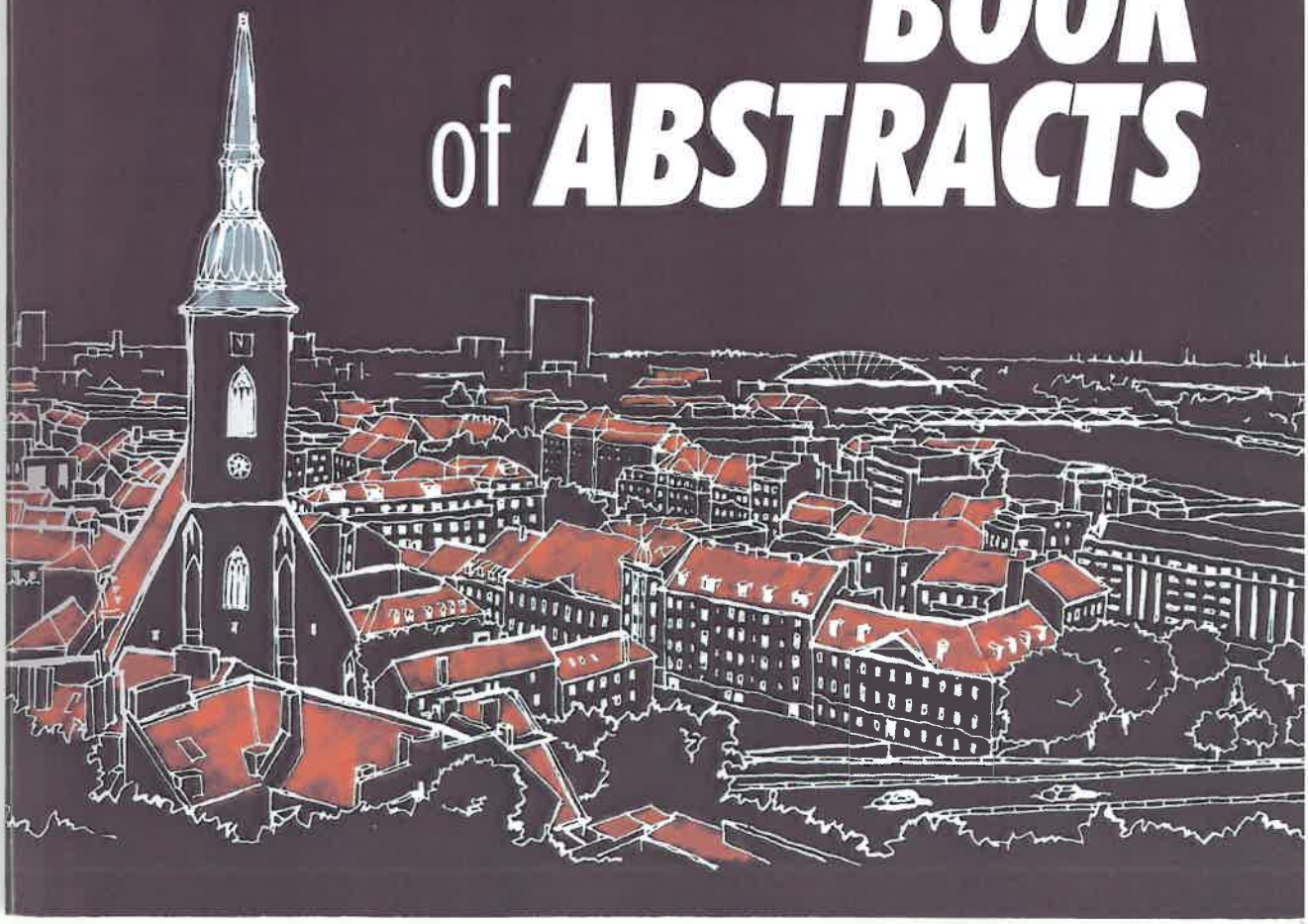
BOOK of ABSTRACTS



11:10-11:30 FrD1.3

Small Scale Mechatronics Devices As Educational and Research Engineering Tools

Assad, Marília Maurell — Pontifícia Univ. Católica Do Rio De Janeiro
Speranza Neto, Mauro — Pontifícia Univ. Católica Do Rio De Janeiro
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This paper presents several mechatronics equipments of low cost and small scale, employing components and technology applied to model building. All systems were developed and built by students with different levels of knowledge in Pontifical Catholic University of Rio de Janeiro to aid the teaching, learning and research in Engineering, particularly on the Control and Automation, Mechanical and Mechatronics fields.

11:30-11:50 FrD1.4

Robotic Boat Setup for Control Research and Education

Borisov, Oleg — ITMO Univ.
Gromov, Vladislav — ITMO Univ.
Pyrkin, Anton — ITMO Univ.
Bobtsov, Alexey — ITMO Univ.
Nikolaev, Nikolay — ITMO Univ.

In this paper a robotic boat setup for research and education in control is presented. It was designed for students to develop their practical experience and validate theoretical results at the course "Control Methods for Robotic Applications", which is being taught at the Department of Control Systems and Informatics of ITMO University. Four use cases of this setup are suggested in the paper. They are aimed to design controllers of various structures.

11:50-12:10 FrD1.5

Proposal of a Low Cost Mobile Robot Prototype with On-Board Laser Scanner: Robot@Factory Competition Case Study

Gonçalves, José — Inesc Tec
Costa, Paulo — Univ. of Porto

In this paper it is presented the proposal of a Low cost Mobile Robot prototype with On-Board Laser Scanner, prototyped to compete at the Robot@Factory Mobile Robot competition. The robot is equipped with a hacked Neato XV-11 Laser Scanner, being a very low cost alternative, when compared with the current available laser scanners. It is presented the description of its sensors and actuators, providing valuable information that can be used to develop better designs of controllers and localization systems. The robot is equipped with the 37Dx52L, which is a low cost 12v motor equipped with encoders and a 29:1 reduction gearbox, being a very popular actuator in the mobile robotics domain. The robot is also equipped with an USB camera used to acquire image, that will be processed, in order to identify the part material status.

12:10-12:30 FrD1.6

A Simulation Tool to Study the Kinematics and Control of 2RPR-PR Parallel Robots

Peidro, Adrian — Miguel Hernandez Univ.
Reinoso, Oscar — Miguel Hernandez Univ.
Gil, Arturo — Miguel Hernandez Univ.
Marin, Jose Maria — Miguel Hernandez Univ.
Paya, Luis — Miguel Hernandez Univ.

This paper presents an educational simulation tool to analyze the kinematics and dynamic control of