

EDITORIAL

Dear reader,

You have at your desk the issue no. 3-4/2005 of the journal AUTOMATIKA. It contains nine selected papers from **13th International Conference on Electrical Drives and Power Electronics – EDPE 2005**, held in Dubrovnik, from 26th to 28 September 2005, and one paper directly sent to the editorial board. Papers are selected on the basis of reviewer's opinions and recommendations of the conference chairmen. The authors are from Austria, Croatia, Hungary, Slovenia and United Kingdom. Since the year 2003, EDPE conferences have been held as Croatia-Slovakia joint event. More information about EDPE 2005 conference you can find in this AUTOMATIKA issue, the chapter on Meetings and Events.

The first group of papers is from the field of electric machines. In the first paper, **The Origins of Shaft Currents in Squirrel-Cage Low-Voltage Induction Machines**, Stjepan Štefanko et al. are analysing possible origins of shaft currents in squirrel-cage low-voltage induction machines.

The second paper is **Finite Element Approach to Calculation of Parameters of an Interior Permanent Magnet Motor** by Damir Žarko et al. in which the authors discuss the method for the calculation of parameters of an interior permanent magnet (IPM) motor using 2-D finite element method. In the third paper, **Identification of Induction Motor Parameters from Free Acceleration and Deceleration Tests**, Marin Despalatović et al. are presenting a new step-by-step approach to identify the parameters of an induction machine combining free acceleration and deceleration transient data.

The second group of papers is dedicated to the application of power electronics in power systems. In the fourth paper, **Time Domain Control of a Power Quality Conditioning System**, Rafael Járdán et al. present a solution for power quality conditioning using the DC/AC converter of a system developed for utilising renewable and waste energy sources. In the fifth paper, **Sinusoidal Active Front End under the Condition of Supply Distortion**, Milijana Odavić et al. are analysing the behaviour of active front end converter under the distorted supply conditions.

The third group of papers is from the field of power electronics. The sixth paper is **High Efficiency DC-to-AC Power Inverter with Special DC Interface** in which Karl Edelmoser and Felix Himmelstoss are presenting a simple modification in the inverter's output section that leads to a significant improvement of the losses in the inverter system. In the seventh paper, **Direct Parallel Connection of DC-DC Power Circuits with Galvanic Isolation**, Neven Čobanov is investigating the behaviour of directly connected DC-DC power circuits without additional circuits for even current distribution.

Remaining papers are from the field of mobile robotics, application of electric drives and process automation. The eighth paper is **Mobile Robots Using Computer Vision Tracking** in which Gregor Klančar et al. are applying global vision scheme to a fast dynamic game – robot soccer. In the ninth paper, **Development of AC Slip-Ring Motor Based Advanced Crane Industrial Controller**, Fetah Kolonić et al. are presenting modern industrial controller solution, as an acceptable and low-cost solution for crane control.

In the last paper, **Continuum Regression in Process Modelling Based on Plant Data**, not belonging to the EDPE conference, Dražen Slišković et al. are presenting a methodology for process modelling based on industrial plant data.

I would like to take this opportunity to thank all the authors for their efforts, as well as to thank all the reviewers for their objectivity and expertise in reviewing process. Finally, I would like to express my gratitude to Prof. Borivoje Rajković, the Editor-in-Chief of AUTOMATIKA, and Prof. Zvonko Benčić, the EDPE 2005 General Chair, for giving me the opportunity and honour to serve as the guest editor of this issue.

Guest Editor
Prof. Željko JAKOPOVIĆ, PhD