EDITORIAL

Dear reader,

You have at your desk the issue no. 3/2010 of the journal AUTOMATIKA, which contains eight papers – six original scientific papers, a preliminary communication, and a review . This issue is dedicated to the 50th anniversary of the Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture, University of Split – well known under the acronym FESB Split. It truly is a significant anniversary of one of the leading technical faculties in the Republic of Croatia and you can read more about it in A word from the Dean of FESB.

*First group of papers is comprised of six papers authored by the employees of FESB and their associates. Although these papers were invited, all of them passed through the standard review process. In the first paper, **Stability Analysis of Three-Phase PWM Converter with LCL Filter by Means of Nonlinear Model**, Božo Terzić et al. analyze the stability problem of the three phase PWM converters with LCL filter without additional passive or active damping, with theoretical results validation by the measurements on a laboratory setup. In the second paper, **Wireless LAN Electromagnetic Field Prediction for Indoor Environment Using Artificial Neural Network,** Antonio Šarolić and Petar Matić present a simple neural model for electromagnetic field prediction in indoor environment, where polar coordinates of distance and azimuth angle are used instead of commonly used Cartesian coordinates. In the third paper, **Including of continuous model for discriminating chromatic and achromatic pixels in cylindrical distance,** Matko Šarić et al. propose a new modified cylindrical distance that uses continuous model instead of discrete model for differencing chromatic and achromatic pixels, which better models gradual transition from scotopic to photopic vision. In the fourth paper, **Algorithm for Deriving Optimal Frame Size in Passive RFID UHF Class1-Gen2 Standard using Combinatorial Model Boundaries**, Petar Šolić et al. present a new model for estimation of the number of tags with four characteristic points, which can be calculated from the proposed combinatorial model. In the fifth paper, **Real-time body orientation estimation based on two-layer stochastic filter architecture,** Josip Musić et al. analyze real-time rigid body orientation estimation methods based on inertial and magnetic sensors, applying a two-layer architecture based on Kalman and particle filters. In the sixth paper, **Modeling Data Mining Applications for Prediction of Prepaid Churn in Telecommunication Services**, Goran Kraljević and Sven Gotovac describe an application of the modeling methodology based on data mining methods for predicting prepaid users churn in the telecom industry.*

*The seventh and eighth papers are original scientific papers directly submitted to the Journal. In the seventh paper, **Evaluation of nonlinear digital audio systems through transparency reduction using the Combined Test Signal,** Hrvoje Domitrović et al. propose a novel evaluation method of nonlinear digital audio systems based on system transparency reduction, measured as the ratio of error and stimulus excitations, and use of a complex test stimulus. In the eighth paper, **Performance Analysis of Multiserver ATM Buffers Routing Multimedia Traffics with Geometric Service Time**, Nada A. Fayza analyzes the performance of discrete-time multiserver ATM buffers in multiserver systems with the aim to be applied to the detailed performance evaluation of ATM multiplexers and ATM switching elements.*

*****Prof. Ivan Petrović, Ph.D., Editor-in-chief*****