

EDITORIAL

Dear readers,

All of the nine articles of the present number of AUTOMATIKA have directly arrived to the editorial board of the journal.

The first section of the journal AUTOMATIKA no. 3-4/2007 is featuring three papers: two of them are original scientific papers and the third one is a professional paper:

– D. Krušelj, J. Ungarov, V. Siladi: **Direct Torque Control of Induction Motors with Stator Flux Correction Applied to the Low-floor Tramcars.** A modified direct torque control (DCT) method of asynchronous traction engines is applied to the main drive of the low-floor tramcars. By altering the stator flux vector, a stable operation in the whole speed range is achieved, also including short circuit.

– S. Marijan: **Proprietary Embedded Control Electronics for TMK 2200 Ultra Low-floor Tramcar.** The systems are based on the generic platforms, which owing to modular hardware and software components enable the development of various products.

– N. Čobanov: **Capacitive Energy Storage Device for Tram Auxiliary Power Supplies.** The paper presents: a solution selection, the working principle and the sizing of the capacitive tank.

The mentioned papers describe the results of research and development of the three important units of the modern low-floor tram realized by the Croatian consortium CROTRAM headed by the joint stock company **KONČAR – Električna vozila d.d.** (presentations on the cover, second and last page of the present issue of AUTOMATIKA).

The second section of the present number of AUTOMATIKA incorporates three papers: the first and the third paper are original scientific papers, and the second one is a preliminary communication:

– M. Mehmedović, Z. Rabuzin, T. Bičanić: **Estimation of Parameters for Synchronous Generator from Sudden Short-circuit Test Data Considering Rotor Speed Variation.** The test was performed under small and slow speed variation and reduced excitation current. During the test neither the rotor speed nor the angle between the rotor and stator were measured.

– M. Jadrić, M. Despelatović, B. Terzić, J. Macan: **Determination of Synchronous Generator Armature Leakage Reactance Based on Air Gap Flux Density Signal.** A new procedure for the armature leakage reactance of the synchronous generator determination is proposed, based on the measurement of the phase displacement between the armature voltage and the generator air gap flux density.

– A. Hren, M. Milanović: **Dynamic Analysis of the SEPIC Converter.** A dynamic analysis of the SEPIC Converter (Single Ended Primary Inductance Converter) without galvanic separation and with galvanic separation. The derived dynamic model was verified by the simulation toolbox SimPowersSystems of the MATLAB program.

The third section of the present number of AUTOMATIKA is featuring three papers: the two of them are original scientific papers and the third one is a preliminary communication:

– M. Vašak, N. Perić: **Combining Identification and Constrained Optimal Control of Piecewise Affine Systems.** The paper examines identification and time optimal control of nonlinear processes modeled as piecewise affine systems. This approach is optimal for the synthesis of high-performance nonlinear control systems, and experimentally verified.

– M. Podbrešič, V. Matko: **A New EMI Filter Selection Method and a Comparison with the Existent Radiation-based Method.** An EMI filter selection method based on the signal FFT measurement is described, using CPU module and demonstrates the comparison between the new FFT-based selection method and the existent radiation-based one.

– A. Rojko, R. Šafarić, K. Jezernik: **Applied Soft Computing Robot Motion Control.** The paper considers the problem of the robot motion control in the presence of the major uncertainties such as the varying load. The efficiency of one conventional and two soft computing model based control algorithms is investigated.

Under the heading **«Comments and Opinions»** in her article **Electronic Journals Today**, Sofija Konjević informs us that the number of e-journals has a continuous and increasing trend. They have been accepted by the users and librarians. The electronic documents have been included in the legal provision; the national libraries carry out the archiving of e-journals with a view to save them for the future.

Editor-in-Chief
Professor Borivoje RAJKOVIĆ, PhD