ON LINEAR AND NON-AUTONOMOUS TWO-PORTS, SUPPLIED SIMULTANEOUSLY AT THEIR GATES WITH HARMONIC CURRENTS HAVING THE SAME FREQUENCY

BY

HUGO ROSMAN

Abstract. A new class of a linear and non-autonomous two-ports parameters is defined, based on the two-port's supplying with harmonic currents having the same frequency, equal amplitudes and equal or opposite initial phases. The defined parameters are dual to those introduced by C. Şora [1].

Key Words: Linear and Non-Autonomous Two-Ports; Simultaneous Supplying at the Two Gates with Harmonic Currents; New Class of Parameters.

DIGITAL SYSTEM FOR WAVE GENERATORS IMPLEMENTED IN COMPLEX PROGRAMMABLE LOGIC DEVICES

BY

NIRVANA POPESCU, D. POPESCU and C. POPESCU

Abstract. The paper presents a digital system designed for muscle stimulation with a specific electric stimulus. For this purpose, a Simulink model is proposed that realizes a certain waveform. The block diagram from Simulink is converted to hardware using the Verilog language. In this way, having a hardware description of the system, the implementation into a CPLD is easy to obtain.

Key Words: Waveform Generator; Simulink Model; Verilog Language; CPLD; FPGA.

AN OVERVIEW ON NEUROPROSTHESIS CONTROL AND TEST

BY

MARIAN POBORONIUC

Abstract. Functional electrical stimulation (FES) provides a means of producing controlled contractions in muscles that are paralysed due to a disease of the central nervous system. A so-called neuroprosthesis may be used to restore motor function at paraplegic patients on the basis of FES. The quality of paraplegic's lives can be improved by daily standing exercises. An overview on the methods to be implemented within a neoruprosthesis is presented, that aim to improve standing in paraplegia, along with some mechatronic devices designed to test a neuroprosthesis control *prior* to use it in clinical trials.

Key Words: Neuroprosthesis; Control Algorithm; Functional Electrical Stimula-tion (FES); Paraplegia; Rehabilitation; Control of Standing; Spinal Cord Injury.

FREQUENCY CONVERTER WITH RNSIC CONVERTER AND WITH PWM INVERTER FOR VECTORIAL SELF-CONTROL OF THE INDUCTION MACHINE

BY

ANATOLI PETRICHEI, DIMITRIE ALEXA, IRINEL-VALENTIN PLETEA, MARIANA PLETEA and ROXANA BUZATU

Abstract. The paper presents a method for the vectorial self-control of an induction motor fed by a PWM inverter with IGBT transistors. The vectorial self-control has the same object as the vectorial control but it is based on a certain transient state behaviour of the PWM inverter that feeds the induction machine, thus simplifying the hardware and software of the controller. Very good performances are obtained. To analyse the performances obtained with the proposed control technique, transient response simulation results are given, in comparison with the vectorial PWM control technique.

Key Words: Pulse with Modulation; Inverter; Induction Machine; Dynamic Performances.