BULETINUL INSTITUTULUI POLITEHNIC DIN IAŞI
TOMUL LIV (LVIII), FASC. 4, 2008
ELECTROTEHNICĂ, ENERGETICĂ, ELECTRONICĂ

PATIENT-INTERACTIVE ROBOTS FOR REHABILITATION

BY

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Abstract. This paper gives a short overview about new patient-interactive robotic approaches applied to the rehabilitation of gait and upper-extremity functions in patients with movement disorders. So-called patient-cooperative controllers can take into account the patient's intention and efforts rather than imposing any predefined movement. Audiovisual displays in combination with the robotic device can be used to present a virtual environment and let the patient perform different gait tasks and activities of daily living. Furthermore, the sensors implemented in the robots allow to measure and assess the patient performance and, thus, evaluate the therapy status. It is hypothesized that such patient-interactive robotic approaches can improve patient motivation and the quality of the therapy compared to conventional approaches.

Keywords: Robotics, Neurorehabilitation, Man-Machine Interface.