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TORSIONAL VIBRATIONS IN THE ELECTRIC DRIVE SYSTEM WITH THE STEPPING MOTOR

ABSTRACT *In the paper there is studied dynamic interaction between electromechanical parts of the precise micro-drive system driven by the hybrid stepping motor which is a source of torsional vibrations. Since in such a case a possibly exact rotational motion of the mechanism must be assured, it is necessary to use sufficiently accurate models of the drive system and the electric motor, where dynamic electromechanical coupling effects are going to be taken into consideration. So that models are presented. From the computational results it follows that there is observed a significant influence of the electromechanical coupling on the dynamic behavior of the drive system driven by the stepping motor.*

Keywords: *stepping motor, driver system, mathematical model, torsional vibrations.*