

MODELING AND EXPERIMENTAL INVESTIGATIONS OF BLDC DISK-TYPE MOTOR FOR FRACTIONAL HORSEPOWER ELECTRIC DRIVES

Summary – The paper describes brushless permanent magnet disk-type motor model useful for simulation in Matlab/Simulink. Some of BLDC disk-type motor parameters necessary for the Matlab/Simulink model were determined by using 3D FEM calculations. These parameters take into account the damage of a part of magnetic material structure resulting from the punching process and coiling the ferromagnetic stripes creating the torus-shaped stator core. The adequacy of the model has been checked in the conditions of the load torque change by comparison of measurement and simulation results.