Abstract:
This study presents a strategy for estimating the states and the load torque to implement a feedback linearisation controller for induction motor drives. The multivariable control is carried out using input-output linearisation feedback law in order to track profiles of the rotational speed and the rotor flux amplitude. The unknown load torque is compensated by an estimator based on the speed error. The state estimation requires only the measurements of the stator voltages-currents. The estimation method is not invasive as no mechanical sensors are needed. Experimental platform equipped with sensors at the load side, for measuring the speed and the torque of the motor driven by the Opal-RT real-time system, was implemented to verify the accuracy of the proposed estimation method to implement the multivariable control.