ABSTRACT

Induction motors are alternating current electric motors are widely used in everyday life both in industry and in household. Induction motors are commonly used are 3 phase induction motor and 1 phase induction motor. 3 phase induction motors are widely used in industry because they are relatively cheap to industry and has a high reliability. But the 3 phase induction motor has weakness one of which is a 3 phase induction motor has several characteristics parameters are not linear, so it can not maintain a constant speed when the load changes. Therefore, to obtain a constant speed and better system performance to changes in load requires a controller.

Controlling the speed of 3 phase induction motor can be done in several ways, one of them is a scalar control or commonly referred to as the control voltage/frequency (V/f). Principles of scalar control is forcing the motor has a constant relationship between voltage and frequency. The advantage of using scalar control is to have a control structure that is simple, easy and fast in the program.

Based on simulation results that have been done, it can be concluded that the speed control system simulation of 3 phase induction motor can work properly. When the testing is done by changing the value of Kp is obtained the rotation speed of the rotor has a steady state error value between 1,013 to 1,16.

Keywords : 3 Phase Induction Motor, Scalar Control, PI Control