Rapeepong Rattanawaorahirunkul 2010: Friction Feedforward Compensation For Effiency Improvement In CNC Machines. Master of Engineering (Electrical Engineering), Major Field: Electrical Engineering, Department of Electrical Engineering. Thesis Advisor: Assistant Professor Peerayot Sanposh, D.Sc. 71 pages.

In the motion of the CNC machines, the friction happens from ball screws, rails, and bearing. This friction effect causes the position error on the CNC milling machines. In this research, the main purpose is to compensate the friction in the system for increasing accuracy and efficiency. This research applies Friction Feedforward technique with PID controller to the system.

The simulations are performed on Simulink and the experiments are performed on Field-Point controller with Laview. These results indicate that the Friction Feedforward technique with PID controller has more accuracy and more efficiency than the general PID controller.

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