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Abstract
Winding systems are major components in a wide variety of industrial plans for metal sheet or web conveyance, paper making , polymer film extrusion processes, woven or non-woven…and so on. In those systems, it is clear that the quality of products and the performance of systems are determined by tension and velocity control of the moving material.
Although the machine is class filed a nonlinear system typically, however PID based controller are employed mostly in the industries. PID controller's greatest advantage is apt to be understood and extensive to be applied to various kinds of controlled fields and controlled the project.
In this thesis, based on a real machine a simulator of the winding (unwinding) machine modeling and control are presented. Diverse control parameters can be inserted into the simulator. Base on PID function and via Lab-View software interface.
Then the user can observe the simulation results before put them into the real machine for finishing products, thus saving costly material and time for pre-experiment.
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