

INTELLIGENT FUZZY PID CONTROLLER DESIGN OF A SCANNING PROBE MICROSCOPE SYSTEM

張博光, 林君明

Communication Engineering

Engineering

jmlin@chu.edu.tw

Abstract

This research is to use an intelligent PID type fuzzy controller for a scanning probe microscope system design. Comparisons with a previous design with PI compensator are also made by simulation. In addition, this idea has been verified by practical implementation of a surface profiler to reduce the hysteresis effect of the force actuator.

Keyword : LVT, LVDT, load cell, surface profiler, PID type intelligent fuzzy controller, hysteresis effect.