

## ABSTRACT

Title : Design and Characterization of Highly-Linear Eddy-Current Displacement

Sensor

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Department : Graduate Institute of Mechanical and Precision Engineering

Time : July,2010

Degree : Master

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Keywords : Eddy-Current displacement sensor · Linearity · Displacement measurement system

Eddy-Current displacement sensor often used in automated production and mechanical motion control devices, it on a conductive or magnetic permeability target for non-contact displacement measurement dynamics. In this study , The purpose of research and development is have highly linear and reliable displacement detector. production of the sensor probe and the driving circuit of two parts. According to theoretical and experimental, design sensor probe size ,type, inductance, Capacitance and frequency, whit use driving circuit to excitation, Transforms the impedance change to assume the linear relationship with the target distance the output voltage. Except, the design and the manufacture eddy current displacement detector, and by the displacement gauging system test, discusses its detection output voltage to be away from and so on relations.