

英文摘要

Measurement of the positioning accuracy of a linear guide which is primarily designed based on a laser interferometer, in this study is protected for international patent laws. The use of this technique, therefore, is costly for domestic manufacturers. Without this technique the manufacturers becomes less competitive in the international market of linear guide. The development of a new and improved technique of measurement is advantageous. Amongst the advantages are the reduction of design and manufacturing time. This will enhance competitive potential and of course a rise in profits for the domestic manufacturers.

This study proposes a visual approach to implement the measurement of the positioning accuracy of a linear guide. It proposes the utilization of a line-scan camera to enlarge and capture images edge of a positioned object. The proposed system is capable of achieving measurements of positioning accuracy of up to 0.002 mm, therefore this study is expected to become a valuable asset in the progress of the supportive company.