

Height measurement based on fringe projection

Abstract

A three-dimensional surface measurement using fringe projection technique has received attention among the researches for the last few decades. However choosing the best method is the challenge because one needs to consider the cost, measurement speed, system complexity, measurement accuracy and data reliability to ensure the success of the measurement. This paper focused on the successful manipulation of non-collimated light source and three step phase shifting for height measurement of a lead frame. The measurement done based on pixel determination from the saw tooth image. In addition, the scaling factor technique has been employed for the measurement accuracy. The experimental results achieved a high precision of measurement with simple system and high speed capability.

Keywords; Fringe Projection, Scaling Factor, Three Step Phase Shifting