

Development of mass and length measurement system on conveyor belt (2nd report)

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Abstract

Our aim is to establish a measurement system that enables highly accurate measuring mass and length of moving products with a relatively high speed on a conveyor belt. In this paper, effectiveness of the proposed measurement system is demonstrated by an analysis of a digital image taken by a digital camera. The advantage of using a handy digital camera is less expensiveness and convenience for processing. We gave a brief explanation of the length measurement with a digital image and discussed some technical problems in attaining length measurement with high accuracy. In this paper, we demonstrate the results obtained by applying our calibration method to digital images having different dimensions.

Keywords: Length measurement, Digital image, Moving product, Conveyor belt

1. Introduction

In recent years, many studies on mass and length measurement of moving products on a conveyer belt have been made energetically in distribution and food industries. In the mass and length measurement of products on a conveyor belt, the mass and dimension of products are generally random. Long, short, high, low heavy and light products are passed over a conveyor belt at a high-speed.

Through the previous papers on multi-stage conveyor belt, the continuous weighing method has been established with satisfactory performance. In the multi-stage conveyor belt so far presented, not only a mass of a product, but also a length of the product should be measured with high accuracy demands.