OPTICA APPLICATA online
A quarterly of the Institute of Physics, Wroclaw University of Technology
open access
Wroclaw University of Technology
INSTITUTE OF PHYSICS

Optica Applicata 2009(Vol.39), No.1, pp. 43-49

Non-contact detection for quantity-insufficiency in tablet counting machine

Yiyong Liang, Rong Sun

Keywords

light reflection; tablet-missed; moving pits, detection

Abstract

A non-contact method based on light reflection was developed to detect quantity-insufficiency information of the tablet counting machine in medicine packaging industry. The incident light beam coming from a detection unit illuminates the detection area. A detector embedded in the detection unit collects the reflected light rays. If one tablet-missed event happens, the detector will output intensive pulse signal. By analyzing the gathered signal, the detection device can recognize that there is not a tablet in current pit. High signal-to-noise ratio was observed in the experiment, so the recognition is readily accomplished. The detection device has been applied in practical industry. It reduces the omission rate low to one hundred-thousandth, far less than three thousandth under best vision monitoring by human.