

Visual Inspection and Crack Detection of Railroad Tracks

Abstract

Surface analysis is a very important measurement for track maintenance for Railroad Tracks, because deviations in surface geometry indicate where potential defects may exist. A rail surface defects inspection method based on computer vision system is proposed in the paper. Various algorithms related denoising, filtering, thresholding; segmentation and feature extraction are applied for processing the images of Railroad surface defect and cracks. It has mostly been implemented on computers. For better speed and complexity, the algorithms need to be implemented on embedded platforms. These methods were designed for MATLAB library.