

## Improving Surface Defect Detection For Quality Assessment

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### Improving Surface Defect Detection For

Corpus ID: 13381601. Improving surface defect detection for quality assessment of car body panels. @inproceedings{Dring2004ImprovingSD, title={Improving surface defect detection for quality assessment of car body panels.}, author={Christian Dring and Andreas Eichhorn and Daniela Girimonte and Rudolf Kruse}, year={2004} }

### Improving surface defect detection for quality assessment ...

The approach presented in this paper is based on 3-D image processing. A major step towards automated quality control of produced panels is the classification of the different kinds of surface form deviations. In previous studies we compared the performance of different soft computing techniques for the detection of surface defect types.

### CiteSeerX — Improving Surface Defect Detection for Quality ...

In "Surface chemistry," attempts to improve the properties of defects by alteration of the surface chemistry are discussed. Reducing the size of diamond Centrifugation, milling, oxidation, and electrophoresis have been investigated to reduce the size of nanodiamonds.

### Improving surface and defect center chemistry of ...

Improving Detection of Surface Imperfections with Green LED Lighting. Application: Enhance visibility of surface imperfections on manufacturing materials. Challenges: Ambient and white light provide insufficient contrast for defect detection. Solution: Green industrial LED task lighting.

### Detection of Surface Imperfections with Green LED Lighting

Determining the size and location of surface defects is crucial to evaluating the potential yield and value of hardwood logs. Recently a surface defect detection algorithm was developed using the Java language. This algorithm was developed around an earlier laser scanning system that had poor resolution along the

### Using parallel computing methods to improve log surface ...

LPI is used to detect casting, forging, and welding surface defects such as hairline cracks, surface porosity, leaks in new products, and fatigue cracks on in-service components. DPI uses capillary action where a low-surface-tension fluid penetrates into clean and dry surface-breaking flaws. Penetrant may be applied to the test component by dipping, spraying, or brushing.

### 4 Methods of Detecting Surface Defects in Carbon Steel

Recently a surface defect detection algorithm was developed using the Java language. This algorithm was developed around an earlier laser scanning system that had poor resolution along the length of the log (15 scan lines per foot).

### Using parallel computing methods to improve log surface ...

The film both serves to conformally decorate the MB defects to improve their detection, as well as curtail surface charging during e-beam inspection to prevent image degradation. Figure 3a demonstrates the improved MB detection sensitivity for a dose-modulated wafer, where a greater than 30 times increase in MB defect count is observed for the ...

### Defect Detection Strategies and Process Partitioning for ...

When inspecting for defects, pay close attention to welded joints, cuts, punctures and scoring. Run a gloved hand over the distressed areas looking for places where it catches to identify protrusions. Some protrusions, such as weld spatter, can be abrasive blasted. Others will require grinding.

### Detecting & Identifying Defects in Steel During Surface ...

At present, most of the detection objects are still plane-oriented. For example, Yi, et al. [17]proposed the detection of surface defects of end-to-end steel strips based on deep convolutional ...

### (PDF) Periodic Surface Defect Detection in Steel Plates ...

Surface Defect Classification in Real-Time Using Convolutional Neural Networks. 04/07/2019 • by Selim Arikan, et al. • DFKI GmbH • 2 • share . Surface inspection systems are an important application domain for computer vision, as they are used for defect detection and classification in the manufacturing industry.

### Surface Defect Classification in Real-Time Using ...

the surface and cost highly with complexity.A new efficient, adaptable and cheap detective method for surface defection on additive manufacturing is quite necessary. With the continuous progress of machine vision technology, machine vision is being paid attention widely as a new method for surface detection.

### An online surface defects detection system for AWAM based ...

From heating and rolling, to drying and cutting, several machines touch flat steel by the time it's ready to ship. Today, Severstal uses images from high frequency cameras to power a defect detection algorithm. In this competition, you'll help engineers improve the algorithm by localizing and classifying surface defects on a steel sheet.

### Severstal: Steel Defect Detection | Kaggle

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For the latter, a defect detection strategy called wavelet transform multiscale filtering (WTMF) based on a wavelet transform and a multiscale filtering algorithm is proposed to reduce the influence of texture and to improve the robustness to localization error.

### A Surface Defect Detection Framework for Glass Bottle ...

In this paper, a detection algorithm of surface defects on solar cells is proposed by fusing multi-channel convolution neural networks. The detection results from two different convolution neural networks, i.e., Faster R-CNN and R-FCN, are combined to improve detection precision and position accuracy.

### Detection of surface defects on solar cells by fusing ...

Focusing on the problem of surface defect detection, this paper proposes a weakly supervised learning method named Category-Aware object Detection network (CADN) to tackle the dilemma. CADN is trained with image tag annotations only and performs image classification and defect localization simultaneously.

### CADN: A weakly supervised learning-based category-aware ...

Inspection lights are a must for industries with surface paint finish defect detection to increase the visibility of defects such as dirt and paint runs.

### Inspection Lighting for Paint/Surface Defect Detection ...

Jian, J. Gao and Y. H. Ao, Automatic surface defect detection for mobile phone screen glass based on machine vision, Appl. Soft Comput. 52 (2017) 348-358. Crossref , ISI , Google Scholar 15.

### A Contrast Enhancement Method for Improving Surface ...

PGA-Net: Pyramid Feature Fusion and Global Context Attention Network for Automated Surface Defect Detection Abstract: Surface defect detection is a critical task in industrial production process. Nowadays, there are lots of detection methods based on computer vision and have been successfully applied in industry, they also achieved good results.