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AUTOMATED CONTROL SYSTEM OF WALLPAPER QUALITY FOR VIDEO

Nowadays every human life is difficult to imagine without automation. It is one of the main and most advanced areas of modern technology. Automation is used effectively for the conservation of resources, environmental improvement, qualitative and reliable products.

The effects caused by the introduction of automation are to reduce complexity of production and labor costs, to increase production variability, to achieve stable speed, analysis, monitoring and control based on mathematical the methods and use of computers as well as possibility of performing operations within harmful environment.

Wallpapers have become a traditional feature of a modern house. They always create comfort, giving the tone and mood to some interior. The quality control starts with the assessment of wallpaper integrity canvas, surface condition, matching the figure, the absence of stains or other deformations. Wallpaper surfaces must be dry, clean, have integrity and meet the figure.

The topicality of the given work is the necessary to modernize and automate the quality control line for wallpapers. Wallpaper control process is divided into four stages:

1. Visual inspection of the product.
2. Determination of integrity and the lack of any damage (registration).
3. Matching the figure (recognition).
4. If the product does not match the requirements, it is considered to be defective.

A video camera is used to provide the visual inspection of a product (wallpaper) inspection. It allows to automatically performing the basic technological operation registration and further recognition of wallpaper.

The program performs both registration and recognition. The program has already been installed in the same video camera, or it can be controlled by the computer. The rejection itself is done by the performing mechanism which sends the signal from the computer (programmed camera).

Therefore, it is recommended to create the recognition algorithm for an image and implement it on a high level programming language. The research has allowed making the conclusion that the correlation coefficient decreases uniformly compared to the samples of location coordinates.

According to the research we can also conclude, that using Pearson's correlation coefficient K makes possible to establish linear connection between pixels. Therefore, the similarity degree of two images can be estimated by the correlation coefficient value.