An Inspection System Model For Defect Detection On Woven Fabrics Based On Texture Analysis

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Abstrak

In this research, it is designed a simple inspection model for defect detection on woven fabrics at the weaving stage of processing, based on texture analysis. Textural features that extracted by using the NGLDM (Neighboring Greylevel Dependence Matrices) from the several avail-able samples either for normal or defective weaving products, are intelligently recognized by a neural network computational system. The model is useful in textile industry, which provide woven qualities produced by weaving machines, therefore, from the defect's information one can separates those products which have different grades to be processed at the dye finishing stage, and may check previous yarn's treatment, mechanical failures, etc. The inspection system is equipped by a flatbed conveyor, a CCD camera, and a microcomputer IBM-PC/AT 386 with a Computer Eyes image grabber card. The testing results of defect detection on the available samples, indicate more than 80% of recognition level can be achieved. In the future, it is anticipated that the system may be developed, in order to reduce much more human intervention for the defect detection.