

Quality Fabric Optimization Using Genetic Algorithms

Authors : Halimi Mohamed Taher, Kordoghli Bassem, Ben Hassen Mohamed, Sakli Faouzi

Abstract : Textile industry has been an important part of many developing countries economies such as Tunisia. This industry is confronted with a challenging and increasing competitive environment. Good quality management in production process is the key factor for retaining existence especially in raw material exploitation. The present work aims to develop an intelligent system for fabric inspection. In the first step, we have studied the method used for fabric control which takes into account the default length and localization in woven. In the second step, we have used a method based on the fuzzy logic to minimize the Demerit point indicator with appropriate total rollers length, so that the quality problem becomes multi-objective. In order to optimize the total fabric quality, we have applied the genetic algorithm (GA).

Keywords : fabric control, Fuzzy logic, genetic algorithm, quality management

Conference Title : ICTITE 2015 : International Conference on Textile Industrial Technology and Engineering

Conference Location : Istanbul, Türkiye

Conference Dates : October 26-27, 2015