

Path optimization using genetic algorithm in laser scanning system

ABSTRACT

Laser marking is superior in quality and flexibility to conventional marking techniques such as ink stamping marking. The beam deflected scanning has been commonly applied in the industries. In this paper, the genetic algorithm (GA) has been proposed to optimize the scanning sequence, thus shortening the required laser scanning path. The GA would base on the real-number representation, namely Real-Coded Genetic Algorithm (RCGA). It employs the Dynamic Variable Length Two Point Crossover (DVL-2PC). The simulation results indicating that the proposed algorithm has good convergent speed and manage to solve the sequencing problem efficiently.