

Stealth Laser Dicing Process Improvement via Shuffled Frog Leaping Algorithm

Authors : Pongchanun Luangpaiboon, Wanwisa Sarasang

Abstract : In this paper, a performance of shuffled frog leaping algorithm was investigated on the stealth laser dicing process. Effect of problem on the performance of the algorithm was based on the tolerance of meandering data. From the customer specification it could be less than five microns with the target of zero microns. Currently, the meandering levels are unsatisfactory when compared to the customer specification. Firstly, the two-level factorial design was applied to preliminary study the statistically significant effects of five process variables. In this study one influential process variable is integer. From the experimental results, the new operating condition from the algorithm was superior when compared to the current manufacturing condition.

Keywords : stealth laser dicing process, meandering, meta-heuristics, shuffled frog leaping algorithm

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