

Modeling and Analysis of Laser Sintering Process Scanning Time for Optimal Planning and Control

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Abstract : In order to sustain the advantages of an advanced manufacturing technique, such as laser sintering, minimization of total processing cost of the parts being produced is very important. An efficient time management would usually very important in optimal cost attainment which would ultimately result in an efficient advanced manufacturing process planning and control. During Laser Scanning Process Scanning (SLS) procedures it is possible to adjust various manufacturing parameters which are used to influence the improvement of various mechanical and other properties of the products. In this study, Modelling and mathematical analysis, including sensitivity analysis, of the laser sintering process time were carried out. The results of the analyses were represented with graphs, from where conclusions were drawn. It was specifically observed that achievement of optimal total scanning time is key for economic efficiency which is required for sustainability of the process.

Keywords : modeling and analysis, optimal planning and control, laser sintering process, scanning time

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