

Path Planner for Intelligent Laser Surface Modification

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Abstract

An optimal algorithm of manufacturing path planner for intelligent laser surface modification is presented. Elements included in the optimal objective have been analyzed. A 6-D manufacture trace that satisfies the requirements of special craft and 5-axis laser processing robot system has been generated from the path planner by method of parallel section in which combinations of modification spots size with curvature of processing surfaces and modification craft parameters are considered. Related experiments have been successfully carried out with the computer integrated multifunctional laser manufacturing system.