

عنوان مقاله:

A new prototype SLA apparatus with an algorithm for CAD model slicing

محل انتشار:

دومین کنفرانس بین المللی و هشتمین کنفرانس ملی مهندسی ساخت و تولید (سال: 1386)

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نویسندگان:

M Shakeri - Associate Prof, Department of Faculty Engineering, Mazandaran University

M Habibi - M.S Mechanical Engineering Student

H Shahmohammadi - M.S Mechanical Engineering Student

خلاصه مقاله:

A successful operation of stereolithography process depends on software and hardware used on manufacturing process. An efficient technique is required to slice the CAD model. Several slicing methods are available for slicing from Standard Triangulation Language (STL) files, such as direct slicing and adaptive slicing. In this paper a new algorithm is developed for part slicing from STL file. Some algorithms for modifying the laser beam path are developed such as: derivation of contours in each layer, generate contour family tree, detective arcs and modifying laser beam path. These algorithms are used in a Visual Basic interface. In most SLA apparatus have been used two mirrors to reflect laser beam. In this research a mechanism is developed based on using only one mirror and this method is discussed about its rotation axis natures and a prototype apparatus is created based on this mechanism

کلمات کلیدی:

rapid prototyping, STL format, contour, galvano-mirror, stepper motor, microcontroller

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