عنوان مقاله:

Numerical Simulation of Transient Temperature Distribution in Laser Heating Process

محل انتشار:

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نویسندگان:

Vahid Reza Adineh - *M.Sc in Mechanical Engineering Science and Research Campus Islamic AZAD University Member of Young Researchers Club*

Cyrus Aghanajafi - *Associate Professor in Mechanical Engineering K.N.Toosi University of Technology-Iran-Tehran*

خلاصه مقاله:

Numerical models of laser heating are essential for an improved understanding of the heating processes. In this paper a three-dimensional finite element model has been developed to simulate the laser heating process. The transient temperature distribution due to continuous laser heating was analyzed numerically. The heat source term in the model was applied using weak formulation. Consequently, the present study treats Effect of beam feed rate and laser power changes on the width of HAZ. It was observed that increasing in feed rate outcomes in decreasing in width of HAZ, while increasing in power results in slight increase in width of HAZ .Results of simulations have been verified with .experimental results

کلمات کلیدی:

laser heating, finite element method, weak form, transient temperature distribution, heat affected zone