سیویلیکا - ناشر تخصصی مقالات کنفرانس ها و ژورنال ها
گواهی ثبت مقاله در سیویلیکا
CIVILICA.com

عنوان مقاله:
Numerical simulation of laser beam welding of Ti6Al4V sheet

محل انتشار:
دو فصلنامه تحقیقات کاربردی در مهندسی مکانیک, دوره 4, شماره 2 (سال: 1394)

تعداد صفحات اصل مقاله: 10

نویسندگان:
m azizpour - *Department of Mechanical Eng. K. N. Toosi University of Technology, Tehran, Iran*

m ghoreishi - *Department of Mechanical Eng. K. N. Toosi University of Technology, Tehran, Iran*

a khorram - *Department of Mechanical Eng. K. N. Toosi University of Technology, Tehran, Iran*

خلاصه مقاله:
This paper was aimed to report the 3D finite element analysis simulation of laser welding process of Ti6Al4V 1.7 mm sheets in butt joint in order to predict the temperature distribution, hardness, and weld geometry. The buttjointwelds were made using CO2 laser with the maximum power of 2.2 kW in the continuous wave mode. A part of the experimental work was carried out to verify the weld geometry with specific weld parameters includingpower, speed, and focal position. Another part investigated the effect of focal position on the weld bead geometry. Subsequently, the shapes of the molten pool were predicted by the numerical analysis method and compared with theresults obtained .through the experimentation, which led to finding a good agreement

کلمات کلیدی:
Numerical simulation, CO2 laser welding, Ti6Al4V alloy

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/630869