Department : Mechanical

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Group No: 7

Guided By

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Project Title

PROBLEM IN WELDING OF TWO DISSIMILAR MATERIALS

Abstract:

ND: YAG laser welding process has successfully used for joining a dissimilar metal AISI 304L stainless steel and pure copper plates. In this study, a statistical design of experiment (DOE) was used to optimize selected LBW parameters (laser power, welding speed and pulse duration). Taguchi approach was used to design the experimental layout, each factors having four levels. Joint strength was determined using the universal testing machine (UTM). The results were analyzed using analyses of variance (ANOVA) and the signal-to-noise (S/N) ratio for the optimal parameters, and then compared with the base material. And the Response can be predicted by fuzzy logic experimental results point to that the laser-welded joints are improved successfully by optimizing the input parameters using the Taguchi fuzzy approach. Also find out the effect of the focusing position on the response.

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