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Inverse Mapping of Weld Bead Geometry in Shielded Metal Arc-Welding: Genetic Algorithm Approach

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Abstract : In the field of welding, various studies had been made by some of the previous investigators to predict as well as optimize weld bead geometric descriptors. Modeling of weld bead shape is important for predicting the quality of welds. In most of the cases, design of experiments technique to postulate multiple linear regression equations have been used. Nowadays, Genetic Algorithm (GA) an intelligent information treatment system with the characteristics of treating complex relationships as seen in welding processes used as a tool for inverse mapping/optimization of the process is attempted.

Keywords : smaw, genetic algorithm, bead geometry, optimization/inverse mapping
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