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Finite difference analysis of transient temperature distribution during gas metal arc welding

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In present study, transient temperature distribution during gas metal arc welding was investigated through finite difference method considering variable thermo mechanical properties of metal, convective, radiative and conductive heat flow. An explicit finite difference method was derived from conservation of energy equation for this purpose. A number of 3-D meshes were assumed for calculating transient temperature distribution on welded plate. Exists in all the meshes, on welding line, an additional term 'heat generation' was included. Value of heat generation is equal to the rate of heat input by electrode during welding. Finally predicted temperature data was compared with measured data and brought into being good accuracy in temperature calculation.

Biography

Aniruddha Ghosh has completed his equivalent to Ph.D. at the age of 39 years He is the Assistant Professor of GCETTB. He has published more than 25 papers in reputed journals and has been serving as reviewers board member of repute.

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