Volume 1140, Issue 1757, 2021, Pages 1-7

## Effects of Boundary Conditions and Operating Parameters on Temperature Distribution during the Friction Stir Welding Process

## M. BOUKRAA, M. AISSANI, N. LEBAAL, D. Bassir, A. Mataoui, N.Tal Ighil, Hao YUE

**Abstract:** This work deals with a numerical simulation of the friction stir welding FSW process of alloy material AA2195-T8. A 3D transient thermal model for simulating the heat transfer phenomena in the welding phase is applied. In this model, the FSW tool is considered as a circular heat source moving in a rectangular plate having a cooling surface and subjected to nonuniformandnon-homogeneousboundary conditions. The thermal problem is solved using the finite element method as part of a Lagrangian formation of the first source moving in the term of the term of the first source moving in the term of the term of the first source moving in the term of term

Keywords : Frictio n Stir Welding, Heat transfer, AA2195-T8