



Modeling and Analysis of Residual Stress in Welded Joints

Guest Editor:

Prof. Dr. Raffaele Sepe

Department of Chemical,
Materials and Production
Engineering, University of Naples
Federico II P.le V. Tecchio, 80 -
80125 Naples - Italy

Deadline for manuscript
submissions:

closed (15 September 2019)

Message from the Guest Editor

Dear Colleagues,

Several experimental destructive and non-destructive techniques for directly measuring residual stress have been developed. However, it is impossible for any of these experimental techniques to obtain a complete distribution of the residual stress and of the distortion affecting a welded structure. Thus, computational methods play an indispensable role in resolving these complex problems.

The aim of this Special Issue is to collect original research articles as well as review articles that seek to address the modeling and analysis of residual stress in welded joints. The Special Issue will include theoretical, numerical, and experimental contributions describing original research results and innovative concepts that address the issues of residual stress in welded joints. The scope includes (but is not limited to): simulations of welding processes, effects of residual stress on the fatigue behaviour of welded joints, thermo-mechanical analyses of welded joints, the modeling of residual stress relief in welded joints, modeling of pre-heat treatment and post-heat treatment and their effects on residual stress in welded joints.

Prof. Dr. Raffaele Sepe

Guest Editor





an Open Access Journal by MDPI

Editors-in-Chief

Prof. Dr. Hugo F. Lopez

Department of Materials Science and Engineering, College of Engineering & Applied Science, University of Wisconsin-Milwaukee, 3200 N. Cramer Street, Milwaukee, WI 53211, USA

Prof. Dr. Yong Zhang

Beijing Advanced Innovation Center of Materials Genome Engineering, State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, 30 Xueyuan Road, Beijing 100083, China

Message from the Editorial Board

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), Inspec, CAPlus / SciFinder, and other databases.

Journal Rank: JCR - Q2 (*Metallurgy and Metallurgical Engineering*) / CiteScore - Q1 (Metals and Alloys)

Contact Us

Metals Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/metals
metals@mdpi.com
[X@Metals_MDPI](https://twitter.com/Metals_MDPI)