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Mechanics of Materials—Forming, Characterization and Analysis of Residual Stress

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Message from the Guest Editors

Dear Colleagues,

This Special Issue is aimed at gathering and presenting the latest developments in the investigation of the residual stresses phenomenon. Contributions showing the forming mechanism of residual stress in complex structural materials (such as composites, metal alloys, concretes, coating–substrate systems, etc.) during the manufacturing process (powder metallurgy, additive manufacturing, casting, welding, severe plastic deformation, surface finishing) or exposure to harmful conditions (high or low temperature, thermal shocks, corrosion, extremal external loadings, etc.) are welcome. Applications of residual stress characterization within different numerical and experimental approaches are expected. Experimental investigations (XRD, neutron diffraction, Raman spectroscopy, nanoindentation, etc.) and modeling of material stresses, structural defects, deformations/distortion, cracking and, as a consequence, damage at various scales can be presented.

This Special Issue provides an excellent opportunity for those who study residual stress and aim to present their achievements.

Dr. Szymon Nosewicz
Prof. Dr. Marcin Chmielewski
Guest Editors

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Message from the Editor-in-Chief

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