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THERMOMECHANICAL MODELING OF LARGE DEFORMATION PROCESSES

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ABSTRACT

Computational Modeling of **Coupled Thermomechanical Large Deformation Processes** has been a strongly active research field in the last few decades. Significant advances in this field have been made as the result of interdisciplinary multi-physics and multiscale research in related fields of computational mechanics, nonlinear constitutive material models, mathematical analysis, and numerical methods. Additionally, during this period, industry has shown a growing interest in incorporating numerical techniques as a valuable tool for material design and process optimization.

This IS aims to collect and show up the last developments attained by young and well-known researchers actively working in the field.

Topics addressed in this IS may include but are not limited to computational modeling and numerical simulation of finite deformation coupled thermomechanical problems, material modeling, contact mechanics, stabilization methods, metals, polymers, advanced numerical methods, and industrial applications, such as Additive Manufacturing (AM), Friction Stir Welding (FSW), Welding, Friction Melt Bonding, Casting, Rolling, Hydroforming, Thixoforming, Roll forming, Automatic Fiber Placement (AFP), tube drawing, sheet blanking, laser forming and general sheet metal forming processes…