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Mini-Symposium on Developments in Finite Element and Meshless Formulations Applied to Metal Forming Problems

(MSI24)

Mini-Symposium description

Numerical simulation analyses of *metal forming processes* involve a high level of complexity, from both fundamental and industrial application standpoints, requiring robust and comprehensive technology in order to achieve realistic solutions.

Focusing on advanced models for numerical simulation based on the *Finite Element Method* and *Meshless Formulations*, this Mini-Symposium aims to present and discuss the current state of the art as well the challenges in the computer-based engineering analysis of conventional and innovative material forming industrial processes, trying to establish guidelines for future research in this field of computational mechanics.

Typical metal forming techniques to be focused include, for instance, sheet and bulk forming, extrusion, tubular and open-blank hydroforming, electromagnetic forming, incremental sheet forming, friction stir welding and conventional joining operations, among others.

A special focus will be put on sources of nonlinearities prone to affect the accuracy and reliability of numerical approaches (locking effects, hourglass instabilities, fluid-structure iteration, thermal-mechanical coupling, contact and friction, anisotropic constitutive criteria and hardening mechanisms, among others), thus promoting communications between academic and industrial researchers.

Organizers

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IMPORTANT: New deadline for abstract submission

February 29, 2012 (more information at <http://eccomas2012.conf.tuwien.ac.at/home.html>)