Special Issue

Formation and Behavior of Metastable Austenite in Advanced High Strength Steels

Message from the Guest Editor

The historical development of advanced high strength steels (AHHS) includes 1st, 2nd and 3rd generation AHHS. The 1st generation basically includes low-alloy steels with ferritic matrix and multiphase microstructure. Low-alloy TRIP steels, which belong to the 1st generation, are multiphase steels containing metastable retained austenite, exhibiting the TRIP effect. The 2nd generation AHHS steels include high-alloy steels containing a high amount of manganese. These steels exhibit a fully-austenitic microstructure and the deformation-induced □→□ and □→□' transformations influence their mechanical behavior. The 3rd generation AHHS steels include steels with mechanical properties filling the gap between the 1st and 2nd generations. Quench & Partitioning (Q&P) and Medium-Mn steels are examples of 3rd generation AHHS steels. For further reading, please follow the link to the Special Issue Website at:
http://www.mdpi.com/journal/materials/special_issues/austenite_high_strength_steels

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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