



Oxide Dispersion Strengthened Steels

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Deadline for manuscript
submissions:

closed (31 December 2019)

Message from the Guest Editor

Oxide dispersion strengthened (ODS) steel is a kind of thermal efficiency material at a high temperature and has a potential to be widely applied in power plants. In this Special Issue, we aim to cover a wide scope of studies including:

(I) Fabrication: Mechanical alloying, hot extrusion, hot isostatic pressing (HIP), spark plasma sintering (SPS), hot rolling, cold rolling, annealing, etc.;

(II) Irradiation: Simulated ion irradiation and neutron irradiation, structure stability and mechanical property changes;

(III) Welded joints: Welded processing and mechanical properties;

(IV) Structural control: Oxide particle formation, dispersion morphology and its coherency with matrix, recrystallization of ferrite, α/γ phase transformation, etc.;

(V) Mechanical properties: Particle-dislocation interaction, grain boundary sliding, tensile and creep properties, etc.;

(VI) Environmental effects: Oxidation resistance, Na corrosion, Pb-Bi corrosion, etc.

Both numerical and experimental contributions will be welcomed to make a high quality Special Issue on “Oxide Dispersion Strengthened Steels” in Metals.





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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.

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