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Corrosion Failures of Steels

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Message from the Guest Editors

Dear colleagues,

As is known to all, steel structures have been applied more and more in modern constructions and infrastructures; however, most of the steel structures in modern civilization serve in aggressive environments. With the elapsing of the service period, corrosion inevitably happens. Corrosion damage reduces the effective cross-section of steel and also results in the volumetric expansion of corrosion products, which finally deteriorate the mechanical performance of steel structures. As a result, their serviceability and long-term performance are influenced significantly, and their safety will be threatened with the propagation of corrosion. This being the case, the corrosion failures of steel structures should be paid enough attention in the relative research fields.

In this Special Issue, we welcome articles that focus on the corrosion failures of steels, including corrosion initiation, corrosion processes, the failure mechanisms induced by corrosion, etc. Both theoretical and practical works are of interest.

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Message from the Editor-in-Chief

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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