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Corrosion Detection and Protection of Steel Pipelines

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Message from the Guest Editor

Steel pipelines used in oil and gas exploration, marine development, gathering and transportation pipelines and other fields are corroded due to the influence of corrosive environments and operating conditions. Corrosion damage causes huge economic losses in itself, in addition to the losses brought by the shutdown of production due to corrosion. Therefore, the causes, the laws and behaviors of corrosion should be determined, and the corrosion mechanisms clarified. It is of great significance to take effective protective measures to prevent corrosion damage, prolong equipment life, reduce costs, and ensure production safety. There are two types of corrosion in steel pipelines: chemical corrosion and electrochemical corrosion. Therefore, it is necessary to conduct research on the detection and protective treatment of steel pipelines against both types of corrosion.

In this Special Issue, we welcome articles that focus on the detection of and protection against corrosion in steel pipeline materials.

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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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