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Stress-Corrosion Cracking in Materials

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Deadline for manuscript submissions:
closed (30 June 2020)

Message from the Guest Editors

Dear Colleagues,

Stress corrosion cracking (SCC) takes place due to the synergistic action of the environment on a susceptible material under tensile loading. SCC promotes the formation of cracks that can propagate, owing to the combined action of stress and environment, with a risk of rupture of structural components even at loads much lower than the tensile strength. Many alloys can exhibit SCC phenomena in unique environmentsAluminum alloys—mainly age-hardening alloys—are susceptible to SCC and corrosion fatigue in the presence of chlorides. Copper alloys suffer SCC in ammonium salt environments. Although several studies have been conducted in recent years, a full understanding of such phenomena is far from being reached. In addition, new joining and manufacturing technologies of materials and their effect on the material properties (friction stir welding, additive manufacturing, etc.) open the theme of qualification for the specific environment and application.

The aim of this Special Issue is to give an up-to-date overview of the SCC of materials, covering all its aspects. Full papers, short communications, and reviews are welcome.

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Message from the Editor-in-Chief

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