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Corrosion Behaviors of Metallic Materials in Extreme Environments

Guest Editor:

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Deadline for manuscript submissions:
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Message from the Guest Editor

Dear Colleagues,

The challenges for structure materials in hostile environments have been baffling the development of many industrial fields such as nuclear energy. Except acceptable mechanical properties, the compatibility with the environments is also a crucial demand for structure materials. In current light water reactors, the coolant is hostile enough for many structure materials. These extreme environments pose great challenges to materials and demand the development of advanced structure materials.

Metallic materials are still the basis for the implement of advanced reactors. In particular, high entropy alloys (HEAs) show some promising features such as resistances to irradiation and corrosion. Additive-manufactured materials also receive intensive attention by the efficiency in manufacturing complex component and enhanced performance.

This special issue aims to compile recent progress in the corrosion behaviors of metallic materials in extreme environments (not limited to the above-mentioned coolants). The topic covers general corrosion, localized corrosion, oxidation, etc. Articles about corrosion test technique and simulation are also encouraged.

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Message from the Editor-in-Chief

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