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## Editorial on the Mechanical Aspects of High-Temperature Corrosion

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In high-temperature applications, the in-service durability of parts often depends on their resistance to high-temperature corrosion and their mechanical strength. The mechanical aspects of high-temperature corrosion underlie various issues that still require research to be better understood, such as:

- Damage monitoring of corrosion scales or of protective coatings

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- The impact of oxidation/corrosion on the residual mechanical strength of materials
- The interaction between visco-plastic deformation and corrosion, the synergy of which often leads to premature failure of the parts.

This selection of contributions shows the implementation of specific tests that allow for the study of the relationships between high-temperature oxidation/corrosion and mechanical behavior. Some results show that particular failure phenomena only appear when a corrosion/mechanical coupling is active. This type of result shows the need for high-temperature mechanical test facilities for which corrosion/oxidation conditions are finely controlled to help understand the coupled phenomena.

The following papers are contributions from the “Mechanical aspects of high-temperature corrosion” session of the 11th International Conference on High-Temperature Corrosion and Protection of Materials (HTCPM 2024), held at Les Embiez Island, France, on 9–14 June 2024.

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