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TMS 2020

149th Annual Meeting & Exhibition

February 23-27, 2020 • San Diego, California, USA



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Nuclear Materials

Materials and Chemistry for Molten Salt Systems

The use of molten salts as a coolant in molten salt reactors (MSR) and concentrating solar power (CSP) systems offers many advantages including low operating pressures, high temperatures, and favorable heat transfer. Molten salts are also widely used in the metal processing and nuclear fuels reprocessing industries. Despite the advantages, the highly aggressive molten salts present a challenging environment for salt facing materials. Further, the high temperatures presented by these systems require exceptional mechanical properties.

This symposium covers all aspects of materials science, chemistry, and electrochemistry in molten salt systems for diverse purposes such as energy transfer, energy storage, metallurgical processing, and actinide recovery.

Abstracts are solicited in the following topics:

- Corrosion of salt-facing materials
- Salt effects in graphite and moderator materials
- Fission product embrittlement
- Alloy selection and design for molten salt applications
- Interaction of fission products with materials
- Mechanical and creep properties
- Electrochemistry for metal processing and actinide recovery
- Salt chemistry effects on materials including radiolysis
- Heat exchanger design
- Welding and cladding issues
- Waste handling and actinide recovery
- Electrochemistry for salt property evaluation

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Abstract Deadline is July 1, 2019. Submit online at
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