SUBMIT AN ABSTRACT FOR THE FOLLOWING TMS2022 SYMPOSIUM:

ADDITIVE TECHNOLOGIES

Additive Manufacturing for Energy Applications IV

Additive manufacturing (AM) techniques within energy sectors have shown a significant increase in research and development over the past few years. These interests and early-stage research and development projects need an accelerated pace for demonstration and full adoption to market in all energy sectors.

AM techniques provide a unique advantage for the energy industry due to the shortened development and fabrication times, product quality, and process repeatability. Not yet commonplace in the energy sector, AM provides new opportunities in the design space during inception of new products (both structural component and material design) due to less limitations on localized design features that could not generally be performed using conventional fabrication processes (e.g., casting, extrusion, etc.) and subtractive fabrication (e.g., machining).

This symposium will integrate invited and contributed talks on the use of AM in various energy industries and includes the following topics based on experimental and computational approaches:

- Processing-microstructure-property relationship of AM fabricated materials for structural components in energy sectors
- New generation AM processes, advances in techniques, specific for scalability and intensification of processes
- Design for AM (topology optimization, simulation processes, case studies)
- Digital thread developments for AM process and product qualification
- Performance testing (e.g., mechanical testing, creep, fatigue, high temperature interactions, irradiation behavior)

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