Augmenting Physics-based Models in ICME with Machine Learning and Uncertainty Quantification

This topic will include papers on modeling complex material behavior and failure characteristics at multiple scales, using ICME and physics-based simulation tools augmented by machine learning and uncertainty quantification. Machine learning, using datasets from experiments and validated simulation tools, can unravel novel material models and physical phenomena. It is necessary to couple these predictions with uncertainty quantification to understand levels of error and ways to mitigate uncertainty.

Original research papers should be 3,000-6,000 words with up to 8 figures maximum; review papers should be 6,000-10,000 words with up to 15 figures maximum.

Detailed author instructions are available at: http://www.tms.org/AuthorTools/

Keywords for this topic: Computational Materials Science & Engineering; Machine Learning; Uncertainty Quantification

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