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Advances in Materials Fracture with Multiscale Modeling

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Message from the Guest Editors

Fracture mechanics is essential for the safety analysis and design of engineering structures such as aircraft, ships, and automobiles. However, damage and fracture of materials is a complex behavior that starts at the atomistic scale then develops in the microscale with heterogeneous phases, and finally formulates observable cracks in the macroscale, which eventually leads to material fracture. Multiscale modeling enables studying the damage and fracture of materials considering the synergic contributions from various scales. Based on these understandings, this Special Issue is focused on studies of material fracture based on multiscale modeling. Relevant studies on the models, algorithms, implementations, applications, as well as findings on material fracture behaviors based on these methods are sincerely welcomed.

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Message from the Editor-in-Chief

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