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Characterization, Applications and New Technologies of Civil Engineering Materials and Structures

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Message from the Guest Editors

Dear Colleagues,

Civil materials and structures are essential to engineering, but are very vulnerable to harsh environments, freeze–thaw actions, loading, etc. These factors can cause damage to civil structure and infrastructure by exerting negative influences on the mechanical and functional properties of civil materials (e.g., asphalt and cement concretes). With the continuous development of large-scale maintenance of infrastructure, accurate, reasonable and efficient mechanical behavior evaluation and performance prediction of civil materials and structures have become the key to improve the service durability and intelligent maintenance management for infrastructure.

The multi-component composition, multi-scale characteristics and multi-field dependence of civil materials lead to extremely complex mechanical behaviors. The phenomenological method based on empirical tests is an important means to understand and evaluate civil materials, but the low efficiency and high consumption cannot meet the design and application requirements of civil materials.





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Message from the Editor-in-Chief

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