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Phase Transformation, Microstructure Regulation and Application Performance Evaluation of Metallic Structural Materials

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Message from the Guest Editors

The Special Issue focuses on the intricate processes of phase transformation, microstructural evolution, and the mechanical and electrochemical performance of various metallic structural materials, including steel, aluminium alloys, titanium alloys, high entropy alloys, and others. This Special Issue also focuses on the relationship between microstructural features and material behaviour, aiming to deepen our understanding of how microstructures can be precisely controlled and optimized. This pursuit is geared towards maximizing the performance of metallic structural materials across a broad array of applications. With a focus on both established materials like steel and emerging alloys and the incorporation of innovative manufacturing processes, this Special Issue contributes significantly to advancing knowledge in the field. By unravelling the complexities of microstructural dynamics and alloy manufacturing, it offers valuable insights for researchers, engineers, and practitioners seeking to push the boundaries of metallic structural materials in various applications.



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Special issue



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Message from the Editor-in-Chief

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