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Phase Transformation Theory and Microstructure Simulation of Alloys

Guest Editor:

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Message from the Guest Editor

Phase transformations occur in a large variety of alloys subjected to a change in temperature or pressure. The development of phase transformation theory is directly related to a continuous progress in microstructure simulation techniques, which benefits the better establishment of microstructure–processing–properties relationships. The successful identification of multiphase microstructure and thermodynamic evolution requires the promotion and application of phase transformation theory and simulation techniques, which enriches the design, optimization, and operation of alloys and lays the foundation for material discovery.

This Special Issue aims to cover recent progress and new developments in the phase transformation theory and microstructure simulation of alloys. All aspects related to phase transformation (e.g., solidification, heat treatment, and thermomechanical processing), physical and numerical simulation, and related structural characterization are covered. Review articles which describe the current state of the art are also welcomed.



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Special Issue



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Message from the Editor-in-Chief

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