



materials



Special Issue Reprint

Physical Metallurgy of Metals and Alloys

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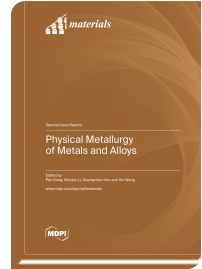
Edited by

Pan Gong

Maojun Li

Guangchao Han

Xin Wang



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This reprint focuses on both advanced metals and their alloys and the areas of physical and process metallurgy, materials science, and processing techniques. Specific areas of interest also include titanium/nickel-based superalloys, intermetallics, advanced metallic materials, nanomaterials, metal matrix composites, functional materials, related synthesis and processing techniques, finite element modelling, statistical analysis, physical/mechanical property characterization, experimental validation, and other relevant phenomena. Physical metallurgy is important in the design and optimization of advanced materials with superior physical and mechanical properties through microstructural modifications and processing techniques. The goal of reprint was to bring together recent progress, novel technologies, and advanced equipment for the design and development of advanced metals and alloys and provide guidelines/benchmarks for further research in related areas. Composites, intermetallics, and nanomaterials as well as functional materials will be also included. Some of the recent advances in the field of advanced metals and alloys include novel material processing techniques, manufacturing methods and theories, microstructural characterization, modelling development, and advanced equipment. Conventional and nonconventional processes related to machining, forming, laser processing, additive/subtractive manufacturing, surface modification, and the solidification of high-performance alloys/metals are also included.



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