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Characterization, Properties, and Applications of New Metallic Alloys

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Message from the Guest Editors

Research on new metallic alloys has primarily focused on glassy, nanocrystalline and medium/high-entropy alloys according to order and entropy tuning techniques. Metallic glassy materials have a unique microstructure: long-range atomic disorder and short-range order. Hence, they are thermodynamically metastable, having special functional properties such as high elastic moduli and strength, high magnetization, low coercivity, and high catalytic capabilities. Nanocrystalline materials are closely related to amorphous materials in terms of processing and service conditions. Recently , besides ordering in the alloys, entropy has gained the more and more attention. Medium/high-entropy alloys have achieved increasingly superior strength and other properties as a result of research by metallurgical scientists and engineers. Their characterization, technologies, and applications have long been of interest to metallurgists, physicists, chemists, materials scientists, and engineers.

- metallic glasses
- medium/high-entropy alloys
- nano metallic alloys
- mechanical properties
- corrosion
- function

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Message from the Editor-in-Chief

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