

Heterostructured Metals

Processing, Interfaces, Defect Structures and Deformation Mechanisms

Heterostructured Metals: Processing, Interfaces, Defect Structures and Deformation Mechanisms provides a comprehensive study of defect structures and deformation mechanisms in interphase boundary-dominated nano and hetero structured metallic systems, along with examples and perspectives on future research directions and technological applications in this topical area. Sections cover fundamental descriptions of atomic structures, thermodynamics, the kinetics of defect-interface interactions, and the relationship between mechanical behavior and interfacial defect structures. Finally, state-of-the-art atomistic and meso-scale computational methods, experimental nanomechanical and in situ characterization of deformation mechanisms and material syntheses using physical vapor deposition, melt, and deformation processing are also described. Users will also find valuable examples of a broad range of model and engineering alloy systems covering cubic and non-cubic crystal structures.

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