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Special Issue Reprint

Mechanical Behavior of Metallic Materials under Different Loading Conditions

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Metallic materials are most frequently used in structural applications under various loading conditions. This Special Issue is dedicated to Prof. Hans-Jürgen Christ, University Siegen, Germany, who, throughout his career, has made seminal contributions to the fatigue and fracture of metals and alloys at various loading rates, temperatures, and within harsh environments. Therefore, in this reprint 17 articles present new results and findings on the deformation behavior of single- and multi-phase (particle strengthened) metallic materials, including metal matrix composites, particularly research addressing underlying microstructural mechanisms and consequences of material design and application. In addition, papers that address monotonic and cyclic deformation behavior (including the VHCF regime) at low and elevated temperatures in various environments, and studies on fracture mechanisms, are also compiled. It is anticipated that this reprint gives a useful overview for materials scientists on both, the experts as well as student level, who deal with the mechanical behaviour of metallic materials under different loading conditions.

