Special Issue

Scientific and Engineering Progress on Aluminum-Based Light-Weight Materials: Research Reports from the German Collaborative Research Center 692

Message from the Guest Editor

Academia and industry alike are faced with an ever-growing demand for energy-efficiency and reduced weights. Aluminum-based light-weight materials offer great potential for novel engineering applications, particularly when they are optimized to exhibit high strength and yet provide sufficient reliability. The last decade has thus seen substantial activity in the research fields of high-strength aluminum alloys and aluminum-based composite materials. For twelve years, backed by solid funding of the German Research Foundation (Deutsche Forschungsgemeinschaft, DFG), scientists of the Collaborative Research Center; High-strength aluminum-based light-weight materials for safety components (SFB 692) at TU Chemnitz, Germany, have contributed to this research area. In this Special Issue of the well-established Metals journal, we intend to present recent results on high-strength aluminum-based light-weight materials that also provide a broad overview of the research activities in SFB 692 and beyond. Prof. Dr. Martin F.-X. Wagner

Guest Editor

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Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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