Special Issue

Preparation, Structures and Mechanical Properties of High-Entropy Alloys

Message from the Guest Editor

Unlike the design concept of traditional alloys based on one or two principal elements, multi-principal high-entropy alloys include multi-principal elements. Due to the high-entropy effect, the sluggish diffusion effect, the severe lattice-distortion effect and the cocktail effect, high-entropy alloys (HEAs) have excellent physical, chemical and mechanical properties, such as high hardness, high strength, high wear resistance, excellent corrosion resistance and high low-temperature toughness. Therefore, high-entropy alloys possess a broad range of potentials application and research value. This Special Issue aims to cover recent progress and new developments in relationships between the preparation, microstructure and mechanical properties of advanced high-entropy alloys. All aspects related to the composition design, numerical simulation, microstructure characterization, advanced preparation methods, mechanical properties and strengthening mechanism are covered by this Special Issue. Review articles that describe the current state of the art are also welcomed.

Guest Editor

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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