1. Record Nr. UNINA9910557350203321

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Titolo	High Entropy Materials: Challenges and Prospects
Pubbl/distr/stampa	Basel, Switzerland, : MDPI - Multidisciplinary Digital Publishing Institute, 2021
Descrizione fisica	1 online resource (126 p.)
Soggetti	Technology: general issues
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	This book is a reprint of a special issue of Metals (ISSN 2075-4701), titled High Entropy Materials: Challenges and Prospects. It is a compilation of nine articles from different aspects of high-entropy materials. The book primarily focuses on high-entropy alloys, the first emergent high-entropy materials, but also covers high-entropy ceramics and high-entropy composites, which are the extensions of high-entropy alloys. The articles on high-entropy alloys cover some important facets in the field such as phase structures, mechanical properties, laser beam welding, design of soft magnetic alloys, and potential as biomaterials. In addition, there are one article introducing the potential of using high-entropy carbides as hard metals for machining, and one another on high-entropy composite studying the microstructures and tribological properties of the FeCoNiCuAl-TiC composite. The goal of this reprinted book is essentially two-fold. In the first place, it offers a platform for researchers in the broad field of high-entropy materials to communicate their views and recent research on the subject. Next, it reports challenges in the sub-fields of high-entropy materials and inspires researchers to continue to practice diligence to resolve these challenges and advance high-entropy materials solidly. We hope that readers in the field feel encouraged, inspired, and challenged by the book, and readers outside the field can grasp some basic ideals of high-entropy materials and their potential to the society as a family of novel materials.