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Descrizione fisica	1 online resource (XV, 152 p. 131 illus., 107 illus. in color.)
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Soggetti	Materials science Solid state physics Thermodynamics Heat engineering Heat - Transmission Mass transfer Engineering—Materials Statistical physics Dynamics Characterization and Evaluation of Materials Solid State Physics Engineering Thermodynamics, Heat and Mass Transfer Materials Engineering Complex Systems
Lingua di pubblicazione	Inglese
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Nota di contenuto	The history of high-entropy materials -- Materials design of high-entropy alloys -- Processing of high-entropy materials -- Mechanical behavior -- Physical and chemical properties -- Irradiation behavior -- Applications and future directions. .
Sommario/riassunto	This book draws on the latest research to discuss the history and development of high-entropy alloys and ceramics in bulk, film, and fiber form. High-entropy materials have recently been developed using the entropy of mixing and entropy of configuration of materials, and have proven to exhibit unique properties superior to those of

conventional materials. The field of high-entropy alloys was born in 2004, and has since been developed for both scientific and engineering applications. Although there is extensive literature, this field is rapidly transforming. This book highlights the cutting edge of high-entropy materials, including their fundamentals and applications. Above all, it reflects two major milestones in their development: the equi-atomic ratio single-phase high-entropy alloys; and the non-equi-atomic ratio dual-phase high-entropy alloys.