1. Record Nr. UNINA9910743248903321 Autore Zhang Xuexi Titolo Magnetic Shape Memory Alloys: Preparation, Martensitic Transformation and Properties / / by Xuexi Zhang, Mingfang Qian Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2022 Pubbl/distr/stampa 981-16-6335-1 **ISBN** 981-16-6336-X Edizione [1st ed. 2022.] Descrizione fisica 1 online resource (273 pages) Collana Chemistry and Materials Science Series Disciplina 577.6427530971274 Soggetti Metals Materials Actuators Magnetic materials Catalysis Force and energy Metals and Alloys Magnetic Materials Materials for Devices Materials for Energy and Catalysis Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia An overview on magnetic shape memory alloys -- Preparation and Nota di contenuto properties of bulk magnetic shape memory alloys -- Preparation and properties of magnetic shape memory alloy foams -- Preparation and heat treatment of magnetic shape memory alloy microwires --Properties of magnetic shape memory alloy microwire -- Preparation and properties of magnetic shape memory alloy particles -- Application of magnetic shape memory alloys. Sommario/riassunto This book systematically describes the fundamentals of Magnetic shape

memory alloys (MSMAs), with an emphasis on low-dimensional structures such as foams, microwires and micro-particles. The respective chapters address basic concepts and theories, the

fabrication of various architectures, microstructure tailoring, property

optimization and cutting-edge applications. Taken together, they provide a clear understanding of the correlation between processing and the microstructural properties of MSMAs, which are illustrated in over two hundred figures and schematics. Given its scope and format, the book offers a valuable resource for a broad readership in various fields of materials science and engineering, especially for researchers, students and engineers.