1. Record Nr. UNINA9910796610203321 Autore Wang Jia-Su Titolo High temperature superconducting magnetic levitation / / Jia-Su Wang and Su-Yu Wang Pubbl/distr/stampa Berlin, [Germany];; Boston, [Massachusetts]:,: De Gruyter,, 2018 ©2018 **ISBN** 3-11-053836-9 Descrizione fisica 1 online resource (402 pages) Classificazione **UP 2280** Disciplina 621.34 Soggetti Superconducting magnets Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Frontmatter -- Contents -- Preface -- 1. Fundamentals of Nota di contenuto superconductivity / Wang, Jia-Su / Wang, Su-Yu -- 2. Superconducting materials / Wang, Jia-Su / Wang, Su-Yu -- 3. Magnetic levitation / Wang, Jia-Su / Wang, Su-Yu -- 4. Superconducting magnetic levitation / Wang, Jia-Su / Wang, Su-Yu -- 5. HTS Maglev experimental methods and set-up / Wang, Su-Yu / Wang, Jia-Su / Lu, Yi-Yun / Liu, Wei -- 6. First manned HTS Magley vehicle in the world / Wang, Jia-Su / Wang, Su-Yu -- 7. Numerical simulations of HTS Maglev / Ma, Guang-Tong / Lu, Yi-Yun -- 8. New progress of HTS Maglev vehicle / Zheng, Jun / Deng, Zi-Gang / Wang, Jia-Su / Wang, Su-Yu -- 9. HTS Maglev bearing and flywheel energy storage system / Deng, Zi-Gang / Lin, Qun-Xu / Liu, Wei / Wang, Jia-Su / Wang, Su-Yu -- 10. HTS Maglev launch technology / Liu, Wei / Li, Jing / Wang, Jia-Su / Wang, Su-Yu --Acronyms and abbreviations Sommario/riassunto The authors begin this book with a systematic overview of superconductivity, superconducting materials, magnetic levitation, and superconducting magnetic levitation - the prerequisites to understand the latter part of the book - that forms a solid foundation for further study in High Temperature Superconducting Magnetic Levitation (HTS Maglev). This book presents our research progress on HTS Maglev at Applied Superconductivity Laboratory (ASCLab) of Southwest Jiaotong

University (SWJTU), China, with an emphasis on the findings that led to the world's first manned HTS Maglev test vehicle "Century". The book

provides a detailed description on our previous work at ASCLab including the designing of the HTS Maglev test and measurement method as well as the apparatus, building "Century", developing the HTS Maglev numerical simulation system, and making new progress on HTS Maglev. The final parts of this book discuss research and prototyping efforts at ASCLab in several adjacent fi elds including HTS Maglev bearing, Flywheel Energy Storage System (FESS) and HTS maglev launch technology. We hope this book becomes a valuable source for researchers and engineers working in the fascinating field of HTS Maglev science and engineering. ContentsFundamentals of superconductivitySuperconducting materialsMagnetic levitationSuperconducting magnetic levitationHTS Maglev experimental methods and set-upFirst manned HTS Maglev vehicle in the worldNumerical simulations of HTS MaglevNew progress of HTS Maglev vehicleHTS Maglev bearing and flywheel energy storage systemHTS Maglev launch technology