1. Record Nr. UNINA9911006982203321

Autore	Wasa Kiyotaka
Titolo	Thin film materials technology : sputtering of compound materials / / by Kiyotaka Wasa, Makoto Kitabatake, Hideaki Adachi
Pubbl/distr/stampa	Norwich, NY, : William Andrew Pub. Heidelberg, : Springer, c2004
ISBN	1-282-02766-2 9786612027666 0-08-094698-4 0-8155-1931-1
Descrizione fisica	1 online resource (533 p.)
Altri autori (Persone)	KitabatakeMakoto AdachiHideaki
Disciplina	621.3815/2
Soggetti	Cathode sputtering (Plating process) Thin films
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Cover; Thin Film Materials Technology: Sputtering of Compound Materials; Copyright Page; Table of Contents; Chapter 1. Thin Film Materials and Devices; 1.1 THIN FILM MATERIALS; 1.2 THIN FILM DEVICES; REFERENCES; Chapter 2. Thin Film Processes; 2.1 THIN FILM GROWTH PROCESS; 2.2 THIN FILM DEPOSITION PROCESS; 2.3 CHARACTERIZATION; REFERENCES; Chapter 3. Sputtering Phenomena; 3.1 SPUTTER YIELD; 3.2 SPUTTERED ATOMS; 3.3 MECHANISMS OF SPUTTERING; REFERENCES; Chapter 4. Sputtering Systems; 4.1 DISCHARGE IN A GAS; 4.2 SPUTTERING SYSTEMS; 4.3 PRACTICAL ASPECTS OF SPUTTERING SYSTEMS; REFERENCES Chapter 5. Deposition of Compound Thin Films5.1 OXIDES; 5.2 NITRIDES; 5.3 CARBIDES AND SILICIDES; 5.4 DIAMOND; 5.5 SELENIDES; 5.6 AMORPHOUS THIN FILMS; 5.7 SUPERLATTICE STRUCTURES; 5.8 ORGANIC THIN FILMS; 5.9 MAGNETRON SPUTTERING UNDER A STRONG MAGNETIC FIELD; REFERENCES; Chapter 6. Structural Control of Compound Thin Films: Perovskite and Nanometer Oxide Thin Films; 6.1 FERROELECTRIC MATERIALS AND STRUCTURES; 6.2 CONTROL OF

STRUCTURE; 6.3 NANOMETER STRUCTURE; 6.4 INTERFACIAL CONTROL; REFERENCES; Chapter 7. Microfabrication by Sputtering; 7.1 CLASSIFICATION OF SPUTTER ETCHING
7.2 ION-BEAM SPUTTER ETCHING7.3 DIODE SPUTTER ETCHING; 7.4 DEPOSITION INTO DEEP-TRENCH STRUCTURES; REFERENCES; Appendix; Table A.1 Electric Units, Their Symbols and Conversion Factors; Table A.2 Fundamental Physical Constants; List of Acronyms; Index

Sommario/riassunto

An invaluable resource for industrial science and engineering newcomers to sputter deposition technology in thin film production applications, this book is rich in coverage of both historical developments and the newest experimental and technological information about ceramic thin films, a key technology for nano-materials in high-speed information applications and large-area functional coating such as automotive or decorative painting of plastic parts, among other topics. In seven concise chapters, the book thoroughly reviews basic thin film technology and deposition processes, sputtering pro