

1. Record Nr.	UNINA9910820119503321
Titolo	Piezoelectric materials : structure, properties, and applications // Wesley G. Nelson, editor
Pubbl/distr/stampa	New York, : Nova Science Publishers, c2010
ISBN	1-61122-632-5
Edizione	[1st ed.]
Descrizione fisica	1 online resource (273 p.)
Collana	Materials science and technologies
Altri autori (Persone)	NelsonWesley G
Disciplina	620.1/1297
Soggetti	Piezoelectric devices - Materials Piezoelectric materials
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	<p>""PIEZOELECTRIC MATERIALS: STRUCTURE, PROPERTIES AND APPLICATIONS ""; ""PIEZOELECTRIC MATERIALS: STRUCTURE, PROPERTIES AND APPLICATIONS ""; ""CONTENTS ""; ""PREFACE""; ""PIEZOELECTRIC CERAMIC MATERIALS: PROCESSING, PROPERTIES, CHARACTERIZATION, AND APPLICATIONS ""; ""ABSTRACT ""; ""1. INTRODUCTION ""; ""2. HISTORY AND PROCESSING OF PIEZOELECTRIC CERAMIC MATERIALS ""; ""2.1. History of Piezoelectricity ""; ""2.2. Processing of Piezoelectric Ceramic Materials ""; ""3. PROPERTIES OF PIEZOELECTRIC CERAMIC MATERIALS ""; ""3.1. Piezoelectric Parameters ""</p> <p>""3.2. Compositions and Properties """"3.3. Piezoelectric Constitutive Relationships ""; ""4. CHARACTERIZATION METHODS FOR PIEZOELECTRIC CERAMIC MATERIALS ""; ""4.1. Characterization of Piezoelectric Properties ""; ""4.1.1. Resonant method and equivalent circuit ""; ""4.1.2. Direct methods for measuring piezoelectric parameters ""; ""4.2. Characterization of Ferroelectric Domain Structure ""; ""5. APPLICATIONS OF PIEZOELECTRIC CERAMIC MATERIALS ""; ""5.1. Piezoelectric Actuators ""; ""5.2. Ultrasonic Motor ""; ""5.3. Piezoelectric Ceramic-Based Sensors ""; ""5.4. Ultrasonic Transducer ""</p> <p>""5.5. Active Vibration Damping""""6. FUTURE OUTLOOK OF PIEZOELECTRIC CERAMIC MATERIALS""; ""7. CONCLUSION ""; ""ACKNOWLEDGMENTS ""; ""REFERENCES ""; ""STRESS ENGINEERED PIEZOELECTRIC COMPOSITES""; ""ABSTRACT ""; ""I. OVERVIEW AND</p>

HISTORY"; "II. TYPES OF STRESS-BIASED DEVICES AND FABRICATION"; "(a) Rainbow"; "(b) Thunder"; "(c) Cerambow"; "(d) Crescent"; "(e) LIPCA"; "(f) Presto"; "(g) Stress-biased Cymbals"; "III. PERFORMANCE ANALYSIS"; "(a) General considerations"; "(b) The role of stress on intrinsic and extrinsic contributions to piezoelectric response, dielectric, and mechanical response"; "(c) Domain wall contributions to performance"; "(d) Other contributions to performance and performance attributes"; "(e) Investigation and modeling of stress profile as a function of device geometry"; "(f) Limitations in modeling associated with linear mechanical and piezoelectric behavior"; "(g) Device reliability and lifetime"; "IV. APPLICATIONS"; "V. FUTURE DIRECTIONS"; "ACKNOWLEDGMENTS"; "REFERENCES"; "PIEZOELECTRIC MATERIALS: STRUCTURE, PROPERTIES AND APPLICATIONS"; "ABSTRACT"; "I. TREND OF CERAMIC ACTUATOR"; "1. Trend of Ceramic Actuator"; "2. An Overview of Solid-State Actuator and High Strain Piezoelectric Actuator Structure"; "II. NEW TYPE ACTUATOR FABRICATED BY POWDER INJECTION MOLDING"; "1. New Type Piezoelectric Transformer: Manufacturing Process, Structure and Properties of Dome Shaped Piezo-Transformer"; "1.1 Introduction"; "1.2 Manufacturing process"; "1.3 Characteristic the effects of geometrical factors on the step-up ratio in piezoelectric transformer";
