1. Record Nr.   UNINA9910955296903321

   Autore   Yang Jiashi <1956->

   Titolo   The mechanics of piezoelectric structures / / Jiashi Yang

   Pubbl/distr/stampa New Jersey, : World Scientific, c2006

   ISBN   9786611378998
                       9781281378996
                       1281378992
                       9789812774057
                       981277405X

   Edizione   [1st ed.]

   Descrizione fisica 1 online resource (xii, 313 p.) : ill

   Altri autori (Persone) YangJiashi <1956->

   Disciplina   537/.2446

   Soggetti   Piezoelectric devices
                       Piezoelectricity

   Lingua di pubblicazione Inglese

   Formato   Materiale a stampa

   Livello bibliografico   Monografia

   Note generali   "A continuation of the author's previous book 'An introduction to the
                       theory of piezoelectricity' (Springer, New York, 2005)"--P. [4] of cover.

   Nota di bibliografia Includes bibliographical references (p. 291-295) and index.

   Nota di contenuto   ch. 1. Three-dimensional theories -- ch. 2. Piezoelectric plates -- ch.
                       3. Laminated plates and plates on substrates -- ch. 4. Nonlinear effects
                       in electroelastic plates -- ch. 5. Piezoelectric shells -- ch. 6.
                       Piezoelectric beams -- ch. 7. Piezoelectric rings -- ch. 8. Piezoelectric
                       parallelepipeds.

   Sommario/riassunto A continuation of the author's previous book "An Introduction to the
                       Theory of Piezoelectricity" (Springer, New York, 2005) on the three-
                       dimensional theory of piezoelectricity, this volume covers lower
                       dimensional theories for various piezoelectric structures and device
                       applications. The development of two-, one- and zero-dimensional
                       theories for high frequency vibrations of piezoelectric plates, shells,
                       beams, rings curved bars and parallelepipeds is systematically
                       presented. In addition to linear piezoelectricity, certain nonlinear
                       effects are also considered and examples for device applications are
                       provided.The material emphasizes dynamic theories and high
                       frequency motions as well as device applications as there are relatively
                       few books on piezoelectric structures, especially for high frequency
                       theories. The volume is destined to be one of the most systematic and