

|                         |   |
|-------------------------|---|
| 1. Record Nr.           | UNINA9910483079903321   |
| Autore                  | Hwu Chyanbin  |
| Titolo                  | Anisotropic Elasticity with Matlab // by Chyanbin Hwu   |
| Pubbl/distr/stampa      | Cham : , : Springer International Publishing : , : Imprint : Springer, , 2021   |
| ISBN                    | 3-030-66676-X   |
| Edizione                | [1st ed. 2021.]   |
| Descrizione fisica      | 1 online resource (913 pages)   |
| Collana                 | Solid Mechanics and Its Applications, , 2214-7764 ; ; 267   |
| Disciplina              | 550.5<br>530.412  |
| Soggetti                | Mechanics, Applied<br>Solids<br>Solid Mechanics   |
| Lingua di pubblicazione | Inglese   |
| Formato                 | Materiale a stampa  |
| Livello bibliografico   | Monografia  |
| Nota di contenuto       | Anisotropic Elasticity -- Complex Variable Formalism -- Computer Program with Matlab -- Infinite Space, Half Space and Bi-materials -- Wedges and Interface Corners -- Holes -- Cracks -- Inclusions -- Contact Problems -- Thermoelastic Problems -- Piezoelectric and Magneto-Electro-Elastic Materials -- Viscoelastic Materials -- Plate Bending Analysis -- Coupled Stretching-Bending Analysis -- Boundary Element Analysis.  |
| Sommario/riassunto      | This book provides the theory of anisotropic elasticity with the computer program for analytical solutions as well as boundary element methods. It covers the elastic analysis of two-dimensional, plate bending, coupled stretching-bending, and three-dimensional deformations, and is extended to the piezoelectric, piezomagnetic, magnetic-electro-elastic, viscoelastic materials, and the ones under thermal environment. The analytical solutions include the solutions for infinite space, half-space, bi-materials, wedges, interface corners, holes, cracks, inclusions, and contact problems. The boundary element solutions include BEMs for two-dimensional anisotropic elastic, piezoelectric, magnetic-electro-elastic, viscoelastic analyses, and their associated dynamic analyses, as well as coupled stretching-bending analysis, contact analysis, and three-dimensional analysis. This book |

also provides source codes and examples for all the presenting analytical solutions and boundary element methods. The program is named as AEPH (Anisotropic Elastic Plates – Hwu), which contains 204 MATLAB functions.

---