

Solid Mechanics and Its Applications 172

Series Editors: J. R. Barber · Anders Klarbring

J. R. Barber

Elasticity

Fourth Edition

This book emphasizes engineering applications of elasticity. This is a first-year graduate textbook in linear elasticity. It is written with the practical engineering reader in mind, dependence on previous knowledge of solid mechanics, continuum mechanics or mathematics being minimized. Examples are generally worked through to final expressions for the stress and displacement fields in order to explore the engineering consequences of the results. This 4th edition presents new and revised material, notably on the Eshelby inclusion problem and anisotropic elasticity.

The topics covered are chosen with a view to modern research applications in fracture mechanics, composite materials, tribology and numerical methods. Thus, significant attention is given to crack and contact problems, problems involving interfaces between dissimilar media, thermoelasticity, singular asymptotic stress fields and three-dimensional problems.

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