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Comments and Conclusions to Chapter 6Bibliography; 7. Gradient Optics of Guided and Surface Electromagnetic Waves; 7.1. Narrow-Banded Spectra of S-polarized Guided Electromagnetic Waves on the Surface of a Gradient Medium: Heterogeneity-Induced Dispersion; 7.1.1. 0 c; 7.2. Surface Electromagnetic Waves on a Curvilinear Interface: Geometrical Dispersion; 7.3. Surface Electromagnetic Waves on Rough Surfaces: Roughness-Induced Dispersion; 7.3.1. Periodically corrugated surfaces; 7.3.2. A randomly rough surface; Comments and Conclusions to Chapter 7; Bibliography
8. Non-local Acoustic Dispersion of Gradient Solid Layers8.1. Gradient Acoustic Barrier with Variable Density: Reflectance/Transmittance Spectra of Longitudinal Sound Waves; 8.2. Heterogeneous Elastic Layers: "Auxiliary Barrier" Method; 8.3. Double Acoustic Barriers: Combined Effects of Gradient Elasticity and Density; Comments and Conclusions to Chapter 8; Bibliography; 9. Shear Acoustic Waves in Gradient Elastic Solids; 9.1. Strings with Variable Density; 9.2. Torsional Oscillations of a Graded Elastic Rod; 9.3. Tunneling of Acoustic Waves Through a Gradient Solid Layer
Comments and Conclusions to Chapter 9

Sommario/riassunto

This book opens a new avenue to an engendering field of applied physics, located at the "crossing" of modern photonics, electromagnetics, acoustics and material science. It also highlights the concept of "non-locality", which proves to be not a special feature of quantum phenomena, but is shown to have an important counterpart in classical physics and its engineering applications too. Furthermore, it visualizes the physical results by means of simple analytical presentations, reduced sometimes to the elementary functions.