1. Record Nr. UNISA996383877503316

Autore	Wollrich Humphry <1633?-1707.>
Titolo	Is this to deny the Popes supremacy? [[electronic resource]] : to wear his robes and livery, to worship in his form, and contrary to the form and power of God
Pubbl/distr/stampa	[London, : s.n., 1661]
Descrizione fisica	1 sheet ([1] p.)
Soggetti	Anti-Catholicism - England Broadsides
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Livello bibliografico	Monografia
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Autore	Randall Robert H
Titolo	An Introduction to Acoustics
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Nota di contenuto	Title Page; Copyright Page; PREFACE; Table of Contents; INTRODUCTION; CHAPTER 1 - FUNDAMENTAL PARTICLE VIBRATION THEORY; 1-1 Simple harmonic motion of a particle.; 1-2 Energy in SHM.; 1-3 Combinations of SHM's along the same straight line.; 1-4 Two collinear SHM's whose frequencies differ by a small amount. Beats.; 1-5 Mathematical vs audible beats.; 1-6 Combinations of more than two SHM's of different frequencies.; 1-7 Fourier's theorem.; 1-8 Determination of the Fourier coefficients.; 1-9 Even and odd functions.; 1-10 Convergence. 1-11 Application of the Fourier analysis to empirical functions.1-12 Damped vibrations of a particle.; 1-13 Case I. . Large frictional force; 1-14 Case II. Small frictional force.; 1-15 Case III. . Critical damping.; 1-16 Forced vibrations.; 1-17 The differential equation.; 1-18 The steady state solution for forced vibrations.; 1-19 Velocity and displacement resonance.; 1-20 The amplitude at resonance.; 1-21 Phase relationships.; 1-22 Energy transfer in forced oscillations.; 1-23 Some applications of the theory of forced vibrations.; 1-24 The importance of the transient response.

1-25 Superposition of SHM's mutually perpendicular.CHAPTER 2 - PLANE WAVES IN AIR; 2-1 Introduction.; 2-2 Dilatation and condensation.; 2-3 Bulk modulus; 2-4 Significant variables in the field of sound.; 2-5 The differential equation for plane waves.; 2-6 Physical significance of the particle displacement,; 2-7 Solution of the wave equation.; 2-8 Disturbances of a periodic nature.; 2-9 The wavelength.; 2-10 Graphical representation.; 2-11 Waves containing more than one frequency component.; 2-12 Alternate forms for the steady state solution to the wave equation.; 2-13 Phase relationships.
2-14 Energy in the wave.2-15 Kinetic energy.; 2-16 Potential energy.; 2-17 Total energy density in the wave.; 2-18 Sound intensity.; 2-19 Units of intensity.; 2-20 The decibel.; 2-21 Intensity "level"; pressure "level."; CHAPTER 3 - WAVES IN THREE DIMENSIONS; 3-1 Waves in three dimensions. The equation of continuity.; 3-2 Application of Newton's second law.; 3-3 The differential equation for waves in three dimensions.; 3-4 The differential equation for spherical waves.; 3-5 The solution of the differential equation.; 3-6 The velocity potential, .
3-7 Application of the function . The "pulsing sphere."3-8 Intensity for spherical waves.; 3-9 The "strength" of a source.; 3-10. Sources equivalent to a pulsing sphere.; 3-11 Limitations on the use of the "strength of source" concept.; 3-12 Extension of the "strength of source" concept.; 3-13 The double source.; 3-14 Examples of the double source.; 3-15 Radiation from a double source as a function of frequency.; 3-16 Quantitative analysis of the double source.; 3-17 Comparison of total power radiated by different types of sources.; 3-18 Practical double sources. The principle of the baffle.
CHAPTER 4 - INTERFERENCE PATTERNS. DIFFRACTION

Sommario/riassunto

No branch of classical physics is older in its origins yet more modern in its applications than acoustics. Courses on acoustics very naturally begin with a study of vibrations, as a preliminary to the introduction of the wave equations. Both vibrations and waves, of course, are vastly important to all branches of physics and engineering. But it is very helpful to students to gain an understanding of mechanical waves before trying to comprehend the more subtle and abstract electromagnetic ones.This undergraduate-level text opens with an overview of fundamental particle vibration theory, and it