Water wave mechanics for engineers and scientists.

R. G. Dean, R. A. Dalrymple

Civil and Environmental Engineering

Research output Chapter in Book/Report/Conference proceeding > Chapter

124 Scopus citations

Abstract
This book is aimed at final year undergraduates or postgraduates. Problems are included and supporting experiments for laboratory courses are outlined. Chapter 1 introduces wave mechanics while Chapter 2 provides a review of hydrodynamics and vector analysis. Chapter 3 deals with small amplitude water wave theory formulation and solution, with aspects of relevance to coastal engineering (e.g. water particle kinematics, wave transformation) covered in Chapter 4. Chapter 5 studies long wave phenomena such as one dimensional tides, storm surges, seiches. Chapter 6 investigates wavemaker theory and wave tank design with the use of wave statistics and spectra explored in Chapter 7. Chapter 8 examines wave forces (on structures) and Chapter 9 studies waves over real sea beds. Chapters 10 and 11 deal with nonlinear properties and nonlinear waves. (C.J.U.)

Original language
English (US)

Title of host publication
Unknown Host Publication Title

Publisher
Prentice-Hall Inc

ISBN (Print)
0139460381, 9780139460388

State
Published - Jan 1 1984

ASJC Scopus subject areas
Engineering(all)

Access to Document

Link to publication in Scopus
Link to citation list in Scopus

Fingerprint
Dive into the research topics of 'Water wave mechanics for engineers and scientists.'. Together they form a unique fingerprint.