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2. The Hilbert-Huang Transform3. A Significant Product of HHT: The Determination of Trend; 4. Some Applications; a. The Chirp Data; b. Speech Signal Analysis; 5. Conclusion; Acknowledgements; References; CHAPTER 7 COMPUTATIONAL FLUID DYNAMICS BASED ON THE UNIFIED COORDINATES - AN EXPOSE; 1. CFD as Numerical Solution to Nonlinear Hyperbolic PDEs - An Overview of Major Developments; 2. The Role of Coordinates in CFD; 2.1. Theoretical Issues; 2.2. Computational Issues; 2.3. The "Optimal Coordinate System"; 3. The Unified Coordinate System; 4. One-Dimensional Flow; 5. Multi-Dimensional Flow
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Sommario/riassunto

The book reviews recent research activities in applied mechanics and applied mathematics such as the fields of solid & fluid constitutive modeling for coupled fields, applications of geophysical & environmental context in judicious numerical-computational implementations. The book aims to merge foundation aspects of continuum mechanics with modern technological applications, notably on reviewing recent advances in the treated subjects in an attractive presentation accessible to a wide readership of engineering and applied sciences.