

Numerical methods for partial differential equations of hyperbolic type

ABSTRACT

The manual describe and examines modern numerical methods for the numerical solution of partial differential equations of hyperbolic systems. Hyperbolic equations can be found in many areas of physics and mechanics, such as acoustics, fluid dynamics, elasticity theory, magneto-hydrodynamics, shallow water equations, and others. This book is designed for the students, engineers and researchers who are faced with the necessity of solving hyperbolic systems in various areas of mechanics, physics and applied mathematics. The feature of the manual is to present and classify the different numerical methods expounded on the basis of a single common approach.