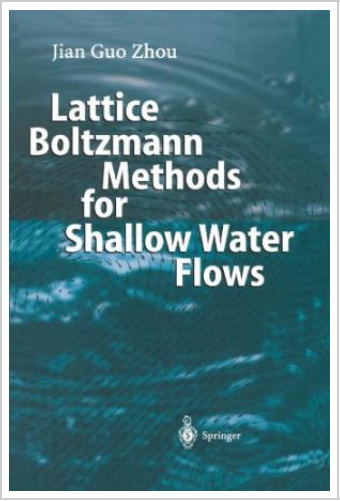

Lattice Boltzmann Methods for Shallow Water Flows (Paperback)

By Jian Guo Zhou

Springer-Verlag Berlin and Heidelberg GmbH Co. KG, Germany, 2010. Paperback. Condition: New. Language: English . Brand New Book ***** Print on Demand *****.The lattice Boltzmann method (LBM) is a modern numerical technique, very efficient, flexible to simulate different flows within complex/varying geome- tries. It is evolved from the lattice gas automata (LGA) in order to overcome the difficulties with the LGA. The core equation in the LBM turns out to be a special discrete form of the continuum Boltzmann equation, leading it to be self-explanatory in statistical physics. The method describes the micro- scopic picture of particles movement in an extremely simplified way, and on the macroscopic level it gives a correct average description of a fluid. The av- eraged particle velocities behave in time and space just as the flow velocities in a physical fluid, showing a direct link between discrete microscopic and continuum macroscopic phenomena. In contrast to the traditional computational fluid dynamics (CFD) based on a direct solution of flow equations, the lattice Boltzmann method provides an indirect way for solution of the flow equations. The method is characterized by simple calculation, parallel process and easy implementation of boundary conditions. It is these features that make the...

Reviews

An exceptional book and also the font utilized was intriguing to read. This is for all who statte there was not a worth reading. It is extremely difficult to leave it before concluding, once you begin to read the book.

-- ***Prof. Tyson Hilpert***

Very beneficial to any or all class of individuals. It is rally interesting throgh looking at time. You will not feel monotony at at any time of your time (that's what catalogs are for concerning in the event you question me).

-- ***Dr. Dallas Reinger IV***