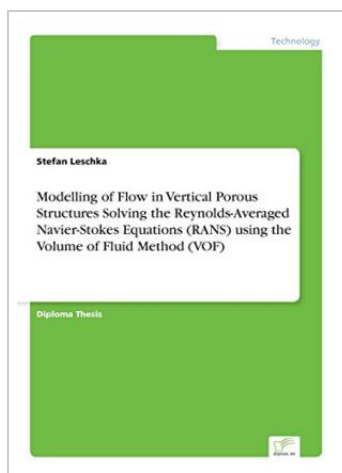




Modelling of Flow in Vertical Porous Structures Solving the Reynolds-Averaged Navier-Stokes Equations Rans Using the Volume of Fluid Method Vof

By Stefan Leschka

Diplom.de. Paperback. Book Condition: New. Paperback. 102 pages. Dimensions: 10.4in. x 7.4in. x 0.2in. Diplomarbeit, die am 30. 11. 2001 erfolgreich an einer Technische Universitt in Deutschland im Fachbereich Bauingenieurwesen eingereicht wurde. Abstract: In this thesis the simulation of the flow in alpha vertical permeable structure with alpha free surface is described. The underlying physical data had been achieved from experiments in a wave flume at the University of Cantabria. For the calibration of the numerical model COBRAS, a VOF type programme developed at Cornell University, the numerical results are compared with the laboratory data. The data analysed comes from 8 free surface sensors, placed inside and outside of the porous structure, and 4 pressure sensors, placed on the impermeable back wall inside the porous structure. An error analysis, using the least square technique, lead to a stepwise improvement of the numerical and the porous media parameters. In this process various grids had been tested, concerning sponge layer length, source function position and cell size. Later the porous media parameter for laminar and turbulent flow had been adjusted. For various wave conditions and porous structure characteristics, the optimal values for these parameters turned out to lay between 0 and 200 for...



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