Analysis of PAKKA-Model Structures in Fluid Flow Motion

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Abstract

In the Lattice Boltzmann method the particles are usually allowed to move and collide on the lattice. The laws governing collisions are designed in such a way that the movement of the particle time scale is in line with Navier-Stokes statistics. The Lattice Boltzman method has many advantages as its efficient calculations and time and space are transferred to match, manage complex boundaries without difficulty and directly link microscopic and major events.

By Lattice Boltzmann estimates there is a qualitative assessment of digital media models with holes and tomographic imaging methods. Various models were adopted to provide the quality dependence of porosity penetration, but also the effects of other structural properties were demonstrated. These include specific location, tortuosity, composition and particle formation in the center. Flexible and internal flight simulation of the PAKKA model samples increased the characteristics of the samples and solutions eg, the effect of fiber flexibility. The simulation shows that the results on paper can be sensitive to photography techniques, as the difference in penetration between high and low resolution images can be seen even though the effects within each method were consistent. Graphs and tables show the dependence and variation of porosity on Darcy permeability and tortuosity.

Keywords: Lattice-Boltzman method, Multiphase flow, PAKKA model structure.

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