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A review of Lattice Boltzmann Simulation of Fluid Flow through Porous Media

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Abstract

The Lattice Boltzmann Method is used to simulate the flow in quasi-two-dimensional micromodels of realistic porous media. The third dimension was taken into account using an effective viscous drag force. In this case, a 2D micromodel of Berea sandstone is considerd. The flow field and permeability of the micromodel are calculated and excellent agreement with Microparticle Image Velocimetry $(\mu - PIV)$ experiments is found.

Keywords: Porous media, Lattice Boltzmann Method, Single phase flow



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