

INFLUENCE OF MICRO-CT EXTRACTED 3D POROUS MEDIA GEOMETRIES ON CFD SIMULATION RESULTS

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ABSTRACT –

Understanding the physical behaviour of fluid flow and transport in porous media with complex porous geometries is not trivial. Recently, it has become possible to obtain real 3D geometries for the pore system of real rocks using micro-Computed Tomography (micro-CT) data. In this work, a comparison has been attempted to demonstrate the impact of 3D surface pore geometries obtained from ReTomo versus open-source software on single- and multi-phase flow results. A number of porous geometries has been tested to show the effect of extracted mesh quality on volume mesh generation and pre-processing and subsequent CFD results. Results obtained at various flow rates demonstrated that ...