



VISUALIZATION TECHNOLOGY OF THE MICROSTRUCTURE OF RESERVOIR CORE

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Abstract- To solve the problem in conventional technologies of analysis and integration in micro scale of reservoir core, virtual reality and visualization technology can be used in the research of reservoir core microstructure. Integrated with practical research and application works, the modeling method of reservoir core and the database store method of microstructure model are analyzed and discussed. A skeleton extraction algorithm based on maximum circumsphere method is proposed to achieve the skeleton model construction of reservoir core. And the visualization of reservoir core microstructure which includes the visualizations of voxel model, surface model, solid model and skeleton model of reservoir core are realized based on OpenGL graphics library. Taking a carbonate as a case study, we develop a set of software named “visualization system of reservoir core microstructure”, which is an effective evidence in the application to scientific research of reservoir core microstructure.

Index terms: Reservoir core, microstructure model, visualization software.