

An Experimental Model for Oil Spill Pollution Problem

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Qiu Jin*, Lei Xu

Department of Physics, The Chinese University of Hong Kong, Hong Kong

*Email of Presenting Author: fallingking@gmail.com

We study the expanding mechanism and collecting methods of the invading phase into the pore space of porous medium, which is inspired by a practical pollution problem that occurs during oil spill on the sand beach. A system with a smaller scale is built to mimic the pollution. We investigate the distribution change of the invading phase as the solvent evaporates. We find an obvious expansion of the invading phase after several times flushing by the solvent. Moreover, observation of the process in the pore level by a confocal microscope reveals that the expanding mechanism depends on the wetting properties of the porous material. Finally, we develop effective method to concentrate the polluting phase in some particular regions, which is beneficial to solve the practical pollution problem.