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**Characterization of Emulsion Flow through a Pore-Throat Capillary Model** VLADIMIR ALVARADO, University of Wyoming, Department of Chemical and Petroleum Engineering, SYGIFREDO COBOS, MARCIO CARVALHO, PUC-Rio, Department of Mechanical Engineering — Flow of emulsions in porous media is important in a number of industries, including oil recovery operations and clean up of non-aqueous phase liquids in soils. The impact of operating parameters and emulsions properties in flow in porous media is still under investigation. A detailed observation at microscopic scale of the flow phenomena involved is essential for the understanding of the flow of an emulsion in porous media. This would lead to the development of better simulation models. In this work, pressure drop - volumetric flow rate response for oil-in-water emulsions passing through constricted capillary systems was studied. Visualization under an optical microscope was carried out to understand the flow phenomena involved. Flow rates were in the 1 m/day to 60 m/day range, to reproduce injection rates used in reservoirs operations. At a set flow rate pressure drop of the flow of emulsions having the same viscosity but different average drop size distribution may be different due to constriction blocking phenomena. This findings show that a viscosity function for emulsions is not enough to fully characterize the flow response in porous media.

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