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Three-dimensional video imaging of drainage and imbibition processes in model porous medium PRERNA SHARMA, P ASWATHI, ANIT SANE, SHANKAR GHOSH, SABYASACHI BHATTACHARYA, TIFR, Mumbai, India — We report experimental results where we have performed three dimensional video imaging of the displacement of an oil phase by an aqueous phase and vice versa in a model porous medium. The stability of the oil water interface was studied as a function of their viscosity ratios, the wettability of the porous medium and the variation in the pore size distribution. Our experiments captures the pore scale information of the displacement process and its role in determining the long time structure of the interface.

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