

Abstract Submitted  
for the DFD08 Meeting of  
The American Physical Society

**Imbibition in layered systems of packed beads** LAETITIA SANGNE, MATHILDE REYSSAT, ERNST VAN NIEROP, HOWARD A. STONE, Harvard University - School of Engineering and Applied Sciences — It is well known that during imbibition of uniform porous media, the penetration distance increases as the square root of time. However, this “diffusive” result is not observed when the spatial arrangement of the beads is not uniform. We investigate two specific cases of inhomogeneity: (i) a system made with two layers each of a uniform bead size, (ii) a gradient of permeability. In both cases, deviations from the “diffusive” dynamics are observed and explained theoretically.

Mathilde Reyssat  
Harvard University - SEAS

Date submitted: 06 Aug 2008

Electronic form version 1.4