

1107-35-376

**Anna L Mazzucato\*** (alm24@psu.edu) and **Christophe La Cave**. *The vanishing viscosity limit in porous media*. Preliminary report.

We consider the flow of a viscous, incompressible, Newtonian fluid in a perforated domain in the plane. We study the simultaneous limit of vanishing pore size and distance, and vanishing viscosity. Under suitable conditions on the pore size, pore distance, and viscosity, we prove that solutions of the Navier-Stokes system in the perforated domain converges to solution of the Euler system in the full plane. That is, the flow is not disturbed by the porous medium and becomes inviscid in the limit. (Received January 19, 2015)