998-76-162   **Elsa Baez*** (`ebj@xanum.uam.mx`), San Rafael Atlixco 186, Col. Vicentina, 09340 Mexico City, Mexico, and **Alfredo Nicolas** (`anc@xanum.uam.mx`), San Rafael Atlixco 186, Col. Vicentina, 09340 Mexico City, Mexico. *Some 2D incompressible viscous natural convection flows.* Preliminary report.

Numerical experiments are presented for some incompressible viscous natural convection flows in porous and homogeneous fluids in tilted rectangular cavities. These kind of flows are governed by the time-dependent Boussinesq approximation in the stream function-vorticity formulation for momentum and mass conservation equations. The experiments are obtained from a simple numerical scheme with a common structure for both fluids and it is based mainly on a fixed point iterative process to solve the nonlinear elliptic systems that result once a convenient second order time discretization is performed. The parameters involved in the experiments are the Rayleigh number, the aspect ratio and the tilted angle. (Received February 24, 2004)