Flow with negative differential viscosity

Akihiko Kawaguchi[1]

[1] Human and Environmental Studies, Kyoto Univ

http://www2.gaia.h.kyoto-u.ac.jp/~akihiko/

Only a monotonous flow appears to the movement of the incompressible flow body in a porous medium under a simple condition according to Darcy's law.

However, the character of the flow changes greatly if we think about the model by which the temperature dependency in the coefficient of viscosity is considered.

Becoming of the inclination of pressure difference - flow velocity specific characteristics negative if we think about the one-dimensional flow under a suitable condition, that is, "Flow with the negative differential viscosity" appears.

Moreover, the flow with non-same flow distribution is regularly achieved though the medium and the boundary condition are the same when thinking about the model by which the one-dimensional flow is bundled in plurals.