

# Resolvent estimates for a perturbed Oseen system

Paul Deuring

*Laboratoire de Mathématiques Pures et Appliquées*

*Université du Littoral “Côte d’Opale”, France*

*Paul.Deuring@lmpa.univ-littoral.fr*

Jiří Neustupa

*Mathematical Institute of AS CR*

*Prague, Czech Republic*

*neustupa@math.cas.cz*

## Abstract

According to a recent result by J. Neustupa [1], stability of a steady solution of the Navier-Stokes equation in a 3D exterior domain may be reduced to integrability on the time interval  $(0, \infty)$  of a semigroup generated by the linearized problem for perturbations, applied to a finite family of certain functions. The aim of the talk consists in explaining how this integrability condition may be deduced from certain resolvent estimates of a perturbed Oseen system. Also the proof of this resolvent estimates is discussed.

**Keywords:** Navier-Stokes equations, stability, Oseen system, resolvent estimates.

## References

- [1] J. Neustupa, Stability of a steady viscous incompressible flow past an obstacle, *submitted*.