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*Asymptotic behavior of 2D-Navier-Stokes equations with bounded or unbounded delay*

In this talk we exhibit different methods to analyze the asymptotic behavior of solutions to a 2D-Navier-Stokes model when the external force contains hereditary characteristics (constant, distributed or variable delay, memory, etc). First we provide some results on the existence and uniqueness of solutions. Next, the existence of stationary solution is established by Lax-Milgram theorem and Schauder fixed point theorem. Then the local stability analysis of stationary solution is studied by using the theory of Lyapunov functions, the Razumikhin-Lyapunov technique. In the end, Lyapunov functionals is also exploited some stability results. We highlight the differences in the asymptotic behavior in the particular case of bounded or unbounded variable delay.