

Non null controllability of Stokes equations with memory

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Stokes equations have been studied since many years and its understanding is very relevant from the mathematical and physical viewpoint. In this talk, we will consider the Stokes equations in the presence of an integro-differential term (integral in time and differential in space) called *memory term*. We will study the boundary null controllability problem (to steer the flow to the rest at an arbitrarily small time) for the Stokes equations with memory in two and three dimensional cases. Precisely, we will construct explicitly initial conditions such that the null controllability does not hold even if the controls act on the whole boundary. Moreover, we also prove that this negative result holds for distributed controls. Finally, we will present some issues which remain open.