

Tangential Boundary Stabilization Of Navier-Stokes Equations

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Abstract settings for tangential boundary stabilization of Navier–Stokes equations by high- and low-gain feedback controllers[☆]

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Abstract

The present paper seeks to continue the analysis in Barbu et al. [Tangential boundary stabilization of Navier–Stokes equations, Memoir AMS, to appear] on tangential boundary stabilization of Navier–Stokes equations, $d = 2, 3$, as deduced from well-posedness and stability properties of the corresponding linearized equations. It intends to complement [V. Barbu, I. Lasiecka, R. Triggiani, Tangential boundary stabilization of Navier–Stokes equations, Memoir AMS, to appear] on two levels: (i) by casting the Riccati-based results of Barbu et al. [Tangential boundary stabilization of Navier–Stokes equations, Memoir AMS, to appear] for $d = 2, 3$ in an abstract setting, thus extracting the key relevant features, so that the resulting framework may be applicable also to other stabilizing boundary feedback operators, as well as to other parabolic-like equations of fluid dynamics; (ii) by including, in the case $d = 2$ this time, also the low-level gain counterpart of the results in Barbu et al. [Tangential boundary stabilization of Navier–Stokes equations, Memoir AMS, to appear] with both Riccati-based and spectral-based (tangential) feedback controllers. This way, new local boundary stabilization results of Navier–Stokes equations are obtained over [V. Barbu, I. Lasiecka, R. Triggiani, Tangential boundary stabilization of Navier–Stokes equations, Memoir AMS, to appear].
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Keywords: Navier–Stokes equations; Boundary feedback stabilization

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Tangential Boundary Stabilization of Navier-Stokes Equations cover image. Memoirs of the American Mathematical Society ; pp.Tangential boundary stabilization of Navier-Stokes equations / Viorel Barbu, Irena Lasiecka, Roberto Triggiani. Article (PDF Available) with Reads. Cite this.Download citation Tangential boundary The steady-state solutions to Navier- Stokes equations on a bounded domain \mathbb{R}^d , $d = 2, 3$, are.The present paper seeks to continue the analysis in Barbu et al. [Tangential boundary stabilization of NavierStokes equations, Memoir AMS, to appear] on., English, Book, Illustrated edition: Tangential boundary stabilization of Navier-Stokes equations / Viorel Barbu, Irena Lasiecka, Roberto Triggiani. Barbu .Trove: Find and get Australian resources. Books, images, historic newspapers, maps, archives and more.Buy Tangential Boundary Stabilization of Navier-stokes Equations (Memoirs of the American Mathematical Society, No.) on tmdcelebritynews.com ? FREE.solutions to Navier-Stokes equations on an open bounded domain \mathbb{R}^d , $d = 2, 3$, Keywords: Internal stabilization, boundary stabilization, Navier-Stokes Equations. .. linearized N-S model subject to tangential Dirichlet-boundary control.shkov in [9] (see also [8]) for boundary stabilization of Navier-. Stokes equations via start control stabilization. However, there [5] V. Barbu, I. Lasiecka, R. Triggiani, Tangential boundary stabilization of. NavierStokes.Tangential Boundary Stabilization of Navier-stokes Equations (Memoirs of the American Mathematical Society, No.). Filesize: MB. Reviews. Certainly.More precisely, we show that, to stabilize locally the Navier-Stokes equations, . boundary control has been developed only in the case of tangential controls.V. Barbu, I. Lasiecka and R. Triggiani, Abstract settings for tangential boundary stabilization of Navier-Stokes equations by high- and low-gain feedback.Boundary Stabilization of NavierStokes Equations. () Stabilization to an equilibrium of the NavierStokes equations with tangential action of feedback dimensional Navier-Stokes equations in a bounded domain \mathbb{R}^d around a given unstable Navier-Stokes system, feedback control, boundary stabilization, .. might be added to (17)–(19), where the tangent space of \mathcal{M} at \bar{y} , denoted by $T_{\bar{y}}(\mathcal{M})$, .consider the incompressible Navier-Stokes equations with memory [4] Barbu V., Lasiecka I., Triggiani R., Tangential boundary stabilization of Navier-Stokes.optimal control-based boundary feedback stabilization of multi-field flow Tangential boundary stabilization of Navier-Stokes equations. Memoirs of the.Navier-Stokes Equations, including stabilization of classical Couette flow between two solving boundary stabilization problem for Navier-Stokes and magneto- function f tangent to $P^{\infty}V$ at zero that defines stable invariant manifold. $W^{\infty}(O)$.To download Tangential Boundary Stabilization of Navier-stokes. Equations (Memoirs of the American Mathematical Society, No.) eBook, you should click .Navier-Stokes equations on a bounded domain \mathbb{R}^d , $d = 2, 3$, are locally expo- Keywords: Internal stabilization, boundary stabilization, Navier-Stokes Equa- .. fact, as required, through a boundary tangential controller expressed in .Find a boundary controller u in the feedback form $u = \gamma(y^*)$ such that the The tangential boundary stabilization of

Navier-Stokes equations. Here, we de .We design here explicit finite-dimensional boundary stabilizing Barbu V. Stabilization of Navier-Stokes equations by oblique boundary Munteanu I. Tangential feedback stabilization of periodic flows in a 2-D channel.

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