1. Record Nr. UNINA9910788741903321

Autore	Barbu Viorel
Titolo	Tangential boundary stabilization of Navier-Stokes equations / / Viorel Barbu, Irena Lasiecka, Roberto Triggiani
Pubbl/distr/stampa	Providence, Rhode Island : , : American Mathematical Society, , [2006] ©2006
ISBN	1-4704-0456-7
Descrizione fisica	1 online resource (146 p.)
Collana	Memoirs of the American Mathematical Society, , 0065-9266 ; ; number 852
Disciplina	510 s 515/.353
Soggetti	Navier-Stokes equations Boundary layer Mathematical optimization Riccati equation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Volume 181, number 852 (first of 5 numbers)."
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	""Contents""; ""Acknowledgements""; ""Chapter 1. Introduction""; ""Chapter 2. Main results""; ""Chapter 3. Proof of Theorems 2.1 and 2.2 on the linearized system (2.4): d = 3""; ""3.1. Abstract models of the linearized problem (2.3). Regularity ""; ""3.2. The operator D*A, D*: Ha??(L[sup(2)](T))[sub(D)]""; ""3.3. A critical boundary property related to the boundary c.c. in (3.1.2e) ""; ""3.4. Some technical preliminaries; space and system decomposition "" ""3.5. Theorem 2.1, general case d = 3: An infinite-dimensional opena€?loop boundary controller g satisfying the FCC (3.1.22)a€?(3.1.24) for the linearized systema€?""""3.6. Feedback stabilization of the unstable [sub(Z)]Na€?system (3.4.9) on Z[sup(u)][sub(N)] under the FDSA""; ""3.7. Theorem 2.2, case d = 3 under the FDSA: An opena€?loop boundary controller g satisfying the FCC (3.1.22)a€?(3.1.24) for the linearized systema€?"" ""Chapter 4. Boundary feedback uniform stabilization of the linearized system(3.1.4) via an optimal control problem and corresponding Riccati theory. Case d = 3""""4.0. Orientation""; ""4.1. The optimal

control problem (Case d = 3)""; ""4.2. Optimal feedback dynamics: the feedback semigroup and its generator on W""; ""4.3. Feedback synthesis via the Riccati operator""; ""4.4. Identification of the Riccati operator R in (4.1.8) with the operator R[sub(1)] in (4.3.1)""
""4.5. A Riccatia€?type algebraic equation satisfied by the operator R on the domain D(A[sup2)][Sub(R)], Where A[sub(R)] is the feedback generator""""""Chapter 5. Theorem 2.3(i): Wella€?posedness of the Naviera€?Stokes equations with Riccatia€?based boundary feedback control. Case d = 3 ""; ""Chapter 6. Theorem 2.3(ii): Local uniform stability of the Naviera€?Stokes equations with Riccatia€?based boundary feedback control""; ""Chapter 7. A PDEa€?interpretation of the abstract results in Sections 5 and 6""; ""Appendix A. Technical Material Complementing Section 3.1""
""B.3. Completion of the proof of Theorem 2.5 and Theorem 2.6 for the Na€?S model (1.1), d = 2""