Nom : POLYAKOV
Last name

Prenom : Andrey
First name

CURRIVULUM VITAE

Nom : POLYAKOV
Last Name

Prénom : Andrey
First Name

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1) Diplômes / *Diplomas*

Habilitation à diriger des recherches (HDR)
Habilitation or equivalent degree
Intitulé : . . . . . Linear Geometric Homogeneity for Control and Estimation in a Finite Time
Title
Date de soutenance : 29.11.2018
Date of the defense of the HDR.
Établissement ayant délivré le diplôme : The University of Lille, France
Granting institution

Doctorat(s) / ***Ph.D.(s)***
Intitulé : . . . . . Control of neutral and unstable plants using relay delayed feedback control
Title
Date de soutenance : 15.12.2005
Date of the defense of the Ph.D.
Établissement ayant délivré la thèse : . . . . . Voronezh State University, Russia
Granting institution
Entité d'accueil (laboratoire, équipe, etc.) pour la préparation de la thèse : Dep. Computational Mathematics
Host entity (laboratory, team, etc.) for the preparation of the Ph.D.

Master ou équivalent / ***Master's or equivalent***
Intitulé : . . . . . Control of the systems with relay feedback
Title
Date : 21.06.2003
Date
Établissement ayant délivré le diplôme : . . . . . Voronezh State University, Russia
Granting institution
Organisme où s'est déroulé le stage : . . . . . Faculty of Applied Mathematics and Mechanics
Institution where the training course took place

2) Parcours Professionnel / *Professionnal history*

2.1) Situation professionnelle actuelle / *Current professionnal status*

Statut et fonction : . . . . . CR Inria (Full-time Researcher)
Position and statute

Centre de recherche: Centre Inria de l'Université de Lille/ Inria Center of the University of Lille
Research Center
Équipe-projet de recherche : Valse project-team
Project-team

2.2) Expériences professionnelles antérieures / *Previous professionnal experiences*

Dates début *Start*	Dates fin *End*	Établissements *Institutions*	Fonctions et statuts[2] *Positions and status*[2]
01.10.2013	now	Inria, Lille	Researcher (permanent)
17.06.2010	01.06.2014	Institute of Control Sciences of Russian Academy of Sciences	Researcher (permanent)
01.09.2008	16.06.2010	Voronezh State University, Russia	Associate Professor (permanent)
15.08.2007	15.08.2008	CINVESTAV-IPN, Mexico	Postdoc (temporary)
01.09.2004	14.08.2007	Voronezh State University, Russia	Lecturer (permanent)

3) Encadrement d'étudiants et de jeunes chercheurs / *Supervision of students and early-stage researchers*

a) **Supervision of Post-Docs**:

- Manuel Mera, 07.2014-07.2015, 'Non-asymptotic Attractive Ellipsoids Method', supported by CONACYT, Mexico.

  - Joint publications: [IJ99, IJ92, IC103, IC128, NC1];

- Nicollas Espitia, 10.2017-10.2019, 'Finite-time control of PDEs', supported by Inria CORDIS (10.2017-02.2019) and CPER ELSAT2020 (02.2019-10.2019)

  - Joint publications: [IJ73, IC52, IC63, IC64];

- Tonametl Sanchez, 10.2017-10.2019, 'Active Control of Flow Separation', supported by CPER ELSAT2020 (10.2017-10.2018) and ANR DIGITSLID (10.2018-10.2019).

  - Joint publications: [IJ55, IJ59, IJ61, IJ69, IJ72, IC41, IC70,IC73, IC80].

- Gabriele Perozzi, 06.2020-06.2021, 'Discretization of Homogeneous Controllers', supported by ANR DIGITSLID;

  - Joint publications: [IJ39, IC34];

- Ghania Khodja, 01.01.2025-31.12.2025, "Homogeneous stabilizers for active control of turbulent flows", supported by CPER RITMEA, Project OCTAVE

- Salim Zekraoui, 01.01.2026-30.06.2027, "Discretization of Homogeneous Infinite-Dimensional Control Systems", supported by ANR SLIMDISC;

b) **Supervision of PhD Students**

- Maxime Feingesicht, 01.01.2015 - 15.12.2017, 'Non-linear Active Control of Turbulent Separated Flows: Theory and Application', supported by Region Hauts-de-France;

  – Joint publications: [IJ71, IJ85, IC84, IC83, IC96]; **Patent**: WO/2018/229442;

- Francisco Lopez Ramirez, 01.10.2015 - 19.11.2018, 'Implicit Lyapunov Function Method for Control and Estimation', supported by Inria CORDIS;

  – Joint publications: [IJ66, IJ70, IJ77, IJ84, IC97, IC92, IC76].

- Tatyana Kharkovskaya, 01.01.2016 - 02.12.2019, "Design of interval observers for systems described by PDE", cotutelle: Centrale Lille – ITMO University, Russia;

  - Joint Publications: [IJ63, IJ81, IC67, IC85, IC93];

- Siyuan Wang, 01.10.2017 - 15.12.2020, 'Homogeneous Quadrotor Control: Theory and Experiment', supported by CSC, China;

  - Joint publications: [IJ45, IJ48,IJ56, IC49, IC58]. **Patent**: WO/2021/229186

- Youness Braidiz, 01.10.2017 - 14.12.2020, 'Relaxed Homogeneity Notions for finite-time and fixed-time stability analysis', supported by ANR Finite4SoS;

  - Joint publications: [IJ40, IJ50, IJ60, IC46, IC47, IC59, IC60].

- Alex dos Reis de Souza, 10.2018 - 10.2021, 'Control and Estimation Methods for Microbial Communities', supported by Inria IPL Cozy,

  - Joint publications: [IJ46, IJ64, IC45, IC54, IC55].

- Artem Nekhoroshikh, 01.01.2019 - 07.10.2022, "Homogeneous control of time-delay systems in the presence of perturbations", cotutelle: Centrale Lille – ITMO University, Russia;

  - Joint Publications: [IJ41, IJ42, IC39, IC36, IC39]

- Yu Zhou, 01.11.2020 - 05.12.2024, "Homogeneous Control with Quantization" supported by CSC China;

  - Joint Publications: [IJ30, IJ32, IC16, IC33, IC31, IJ32, IC21]

- Min Li, 01.10.2021 - 30.10.2025, "Homogeneous Control and Estimation of Multi-Agent Systems", supported by CSC China;

  - Joint Publications: [IJ31, IJ21, IC28, IC19]

- Méricel Ayamou,15.11.2022 - 28.11.2025, "Finite-dimensional Homogeneous Control for Infinite-Dimensional Systems", supported by Univ.Lille (50%) + Region Hautes de France (50%)

  - Joint Publications: [IJ6, IJ12, IJ10, IC17, IC13, IC9]

- Yiru Guo, 01.10.2021 - 19.05.2026, "Analysis and design of controllable flexible mechanisms", supported by CSC China;

  - Joint Publications: [IJ7]

- Zitong Yang, 01.12.2023-now, "Nonlinear Control of Rigid-Flexible Mechanism Modeled by Coupled ODE-PDE System", supported by CSC China

c) **Supervision of PhD internships** in Inria Lille + consultation of PhD research in Russia.

- David Cruz (Inria Internship: 01.09.2018-30.04.2019; CINVESTAV-IPN, Mexico; Co-supervisors: Dr. Isaac Chairez and Prof. Alexander Poznyak)

- Marianna Ballesteros (Inria Internship: 01.09.2018-30.04.2019; CINVESTAV-IPN, Mexico; Co-supervisors: Dr. Isaac Chairez and Prof. Alexander Poznyak)

- Konstantin Zimenko (Inria Internship: 1 month per year, 10.2015-12.2018, ITMO University, Russia; Supervisor: Artem Kremlev)

- Nadhynee Martinez Fonesca (Inria Internship: 01.09.2018-30.04.2019; UPIBI-IPN, Mexico; Supervisor: Dr. Isaac Chairez)

- Sergei Parsegov (2010-2013; Institute of Control Sciences of Russian Academy of Sciences; Supervisor: Pavel Shcherbakov)

- Mikhail Kryachkov (2009-2012; Voronezh State University; Supervisor: Vadim Strygin)

d) **Supervision of Masters Students**

- Etienne Lanzeray (2025, Centrale Lille)
- Mathias Dubuisson (2025, ISAE-SUPAERO, Toulouse)
- Erwin Jezequel (2018, Centrale Lille)
- Marc Sanmillan (2018, Centrale Lille)
- Dmitrii Kondratovich (2012; Institute of Control Sciences of Russian Academy of Sciences)
- Elena Maslennikova (2009, Voronezh State University)
- Aleksej Baushev (2009, Voronezh State University)
- Andrey Solov'ev (2009, Voronezh State University)
- Artem Batuev (2009, Voronezh State University)
- Evgenii Orazaev (2009, Voronezh State University)
- Sergej Kosinov (2007, Voronezh State University)
- Leonid Kukushkin (2007, Voronezh State University)
- Konstantin Chernyshev (2007, Voronezh State University)

4) Encadrement de développements technologiques (logiciel, matériel, robotique) / *Supervision of technological development (software, hardware, robotics)*

1 Research Engineer:

- Fiodar Hancharou, 11.2019-05.2021, 'ControlHub Experiment Server', supported by CPER DATA, Project ControlHub.

5) Projets de recherche / *Research projects*

- ANR PRC SLIMDISC (2014-2028, co-PI)
- ANR PRC DIGISLID (2018-2022, co-PI)
- "RECoT" Inria Associate team (2018-2020, co-PI)
- CPER DATA, project "ControlHub" (2016-2021, PI)
- NNSF 62050410352 (2021-2022, Host Insitution: Xidian University)
- ANR PRC Finite4SoS (2015-2020, Participant)
- ANR JCJC ROCC-SYS (2014-2018, Participant)
- ANR PRC Chaslim (2011-2015, Participant)
- CPER ELSAT2020, project "Contratech" (2015-2021, Participant)
- ADT "SEEC", Inria

6) Conférences invitées / *Invited Talks*

- Plenary Talks:
  - "Generalized Homogeneity in Quadrotor Control", the 2024 International Conference on Guidance, Navigation and Control, Changsha, China, August 9-11, 2024
  - "Generalized Homogeneous Stabilization via Sliding Modes", the 16th International Workshop on Variable Structure Systems, Rio de Janeiro, Brasil, 11-14 September 2022
- Invited Talks:
  - "Active Flow Control: Sliding Mode Control Approach", Workshop on Active Drag Reduction Aachen, Germany, 15-16 March 2018
  - "Sliding mode control of flow separation", 2nd Workshop on Machine Learning Control, Valenciennes, France, July 5th-6th , 2017
  - "Robust Stabilization with Time Constraints: Implicit Lyapunov Function Approach", International Conference "Optimization And Applications in Control and Data Science", Moscow, Russia, 13-15 May 2015

7) Enseignement / *Teaching*

a) **Academic Lessons**:

- NSF ASI Lecture (organized by Wayne State University, USA; 10 hours total):
  - Analysis and Design of Homogeneous Systems (20 July 2022, PhD students, 5 hours)
  - Analysis and Design of Homogeneous Systems (18 May 2023, PhD students, 5 hours)
- "Advanced Control Techniques for Robotic Systems", 9 -11 January 2023, Tech Monterrey, Mexico (8 hours total):
  - Homogeneous Control (10 January 2023, 4 hours, academic staff and PhD students)
  - Sliding Mode Control (11 January 2023, 4 hours, academic staff and PhD students)
- Xidian University, China (36 hours total):
  - Introduction to Lyapunov Function Method (July 2021, 8 hours + June 2022, 8 hours, master and PhD students)
  - Generalized Homogeneity in Systems and Control (October 2022, 20 hours, master and PhD students)
- Voronezh State University (2004-2007 and 2008-2010; more than 3000 hours):
  - Algebra & Analytical Geometry (bachelors of 1st year);
  - Programming Languages and Algorithms (bachelors of 1st and 2nd years);
  - Algorithms for Sparse Matrices (bachelors of 3rd year);
  - Mathematical Software (bachelors of 3th year);
  - Algorithms of Computer Graphics (bachelors of 4th year);
  - Relational Database Management Systems (bachelors of 4th year);
  - Computational Mathematics (bachelors of 3rd and 4th years);
  - Internet Programming (masters of 1st year);
  - Linear Matrix Inequalities (masters of 2nd year);

b) **Tutorial Courses and Workshops**

- IEEE Conference on Decision and Control 2019
  Workshop "Finite-, Fixed-, and Prescribed-Time Stabilization and Estimation";
  Organizers: Denis Efimov, Miroslav Krstic, Wilfrid Perruquetti, Andrey Polyakov, Drew Steeves;

  - "Homogeneous implicit Lyapunov functions for finite-time control and estimation" (1 hour)
  - "Discretization of Finite-time and Fixed-time Stable Systems" (0.5 hour)
- Traditional Whole-Russian School "Control, Information and Optimization"
  - 2011 (2 hours; "Lyapunov Function Design for High Order Sliding Modes");
  - 2015 (4 hours; "Stability Notions and Lyapunov Functions for Sliding Mode Control Systems")
- 6th IEEE International Conference on Electrical Engineering, Computing Science and Automatic Control (CCE-2009), November 10-13, 2009, Toluca, Mexico
  - "Lyapunov Function Method for Nonlinear and Discontinuous Systems" (6 hours)

8) Membre des comités / *Member of committees*

a) Inria Committees:

- Membre du jury d'admissibilte du concours 2023 CRCN/ISFP Inria pour Centre Inria de l'Universite de Lille
- Membre du jury d'admissibilte du concours 2024 CRCN/ISFP Inria pour Centre Inria de l'Universite de Lille

b) 4 PhD defense committee/Comité de jury de these (incl. 3 as a reviewer)

- Kévin Mariette, "Controle en boucle fermée pour la réduction active de trainée aérodynamique des véhicules", INSA Lyon, November 9, 2020; *My role*: Rapporteur
- Luz Adriana Guzman Trujillo "The convexity based approach to optimal control of some classes of non-standard dynamic systems, Univ. Angers, June 30, 2021; *My role*: Rapporteur
- Marc Wijnand, Controle en temps fini de systèmes vibratoires hybrides couplant équations aux dérivées partielles et équations aux dérivées ordinaires: les cas du tom et du cable pesant, Sorbonne University, July 5, 2021; *My role*: Membre de jury
- Ismaila Balogoun, Contributions a la theorie du controle des systemes de dimension infinie soumis a des perturbations/incertitudes, Centrale Nantes, July 20, 2023; *My role*: Rapporteur

c) Research evaluation/expertise:

Actual activities

- *Member of Editorial Board of Automation and Remote Control*, 2014-Now
- Editor of "Visnyk of Kharkiv National University. Ser. Mathematics, Applied Mathematics and Mechanics" (Ukraine), 2016 - Now
- Member of IPC of International Workshop on Variable Structure Systems, 2018-now
- External expert of Research & Innovation Grants (Khalifa University, UAE; ITMO University, Russia), 2022-Now
- Reviewer of Springer Book Series "Communications and Control Engineering", 2023- Now
- Reviewer of Alexander von Humboldt Foundation, 2023-Now,

Former activities

- Member of Editorial Board of Journal of Optimization Theory and Applications, 2014-2018
- Subject Editor of International Journal of Robust and Nonlinear Control, 2014-2018
- Associate Editor of Journal of The Franklin Institute, 2014-2016

d) Scientific groups and committees:

Actual activities

- *IFAC Technical Committee (TC) 2.3: "Non-Linear Control Systems"*

Former activities:

- *Comité Opérationnel de FR TTM, Theme 1, 2020-2022*

9) Visibilité (si pertinent) / *Visibility (if relevant)*

- Standardized Citation Metric[4] developed in Stanford University proposes a ranking of the top 2% most cited researchers *in all research fields*. The ranking is usually published in October of the year N based on the citations in the year $N-1$ (resp., in the years $\leq N-1$).
  - For the single year ranking, about 80 French researchers (including retired people) are presented in the list of top 2% most cited researcher in the field "*Industrial Engineering & Automation*" (my research field). In this list, I was ranked the **1st of 86** in 2022, the **2nd of 81** in 2023-2025.
  - For the whole carrier ranking, about 120 French researchers (including retired people) are presented in the list of top 2% most cited researcher in the field "*Industrial Engineering & Automation*" (my research field). In this list I was ranked the **17th of 116** in 2022, the **14th of 122** in 2023, the **9th of 122** in 2024 and the **6th of 122** in 2025.

[4] Ranking Methodology: https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.3000384
Databases for 2022: https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/5
Databases for 2023: https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/6
Databases for 2024: https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/7
Databases for 2025: https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/8

10) Publications / *Publications*

My three most representative publications:

- A. Polyakov, Nonlinear feedback design for fixed-time stabilization of linear control systems, IEEE Transactions on Automatic Control, 2012. This is the first paper in control theory, which introduces the principles of fixed-time control design. This is my most cited paper (about 5000 citations). The paper is still in the list of most popular papers in IEEE Transactions on Automatic Control (the top journal in the field of Automation & Control Theory).
- A. Polyakov, D. Efimov, W. Perruquetti, Finite-time and fixed-time stabilization: Implicit Lyapunov function approach, Automatica, 2015. The paper has about 1000 citations. It introduces implicit Lyapunov function method for finite/fixed-time control design.
- A. Polyakov, Generalized Homogeneity in Systems and Control, Springer, (2020, 1st Edition and 2025, 2nd Edition Volume I and Volume II). This is the only monograph existing today, which presents an introduction to the theory of generalized homogeneous control systems. The second edition of the book is more friendly for the reader having engineering backgrounds and covers both finite and infinite dimensional control systems. It provides a road map of homogeneous control systems design from purely theoretical (abstract) ideas to their applications in real electro-mechanical systems (such as flying and terrestrial mobile robots).

Revues internationales / *International journals*

I have (co-)authored about 130 articles in international peer-reviewed journals. Most of them are in the field of Automation & Control Theory. The most recognized (the top 1-2) journals in this field are **IEEE Transactions on Automatic Control** (*23 papers*) and **Automatica** (*30 papers*), respectively. My application-oriented research results (8 papers) are published in the application-oriented journals, respectively, such as IEEE Transactions on Control Systems Technology, IEEE Transactions on Industrial Electronics, Control Engineering Practice, Journal of Process Control. More theoretical/mathematical papers are published in SIAM Journal on Control and Optimization and in Systems & Control Letters. I have also published 4 survey/tutorial papers and 5 invited papers (for special issues).
The complete list of my journal papers is given below together with web-links to the already published papers/books. Author's versions of all papers published since 2012 are available in HAL. An information about citations of my papers can be found in Google Scholar. The "**IF**=Impact Factor" is utilized below to highlight the ranking of the journal by JCR. In control journals, the author names are ordered according to amount of authors' contributions.

IJ1. A. Polyakov, Discontinuous Integro-Differential Equations and Sliding Mode Control, **IEEE Transactions on Automatic Control**, 2026, (**IF**: 7.0)

IJ2. K. Zimenko, D. Efimov, A. Polyakov, X. Ping, Exponential, Finite-Time and Fixed-Time Small-Gain Theorems for Interconnected Systems, **Automatica**, 2026, (**IF**: 5.9)

IJ3. A. Polyakov, Y. Orlov, Homogeneity and Linear Quadratic Regulation, **Proceeding of the Steklov Institute of Mathematics**, 2026

IJ4. D. Galkina, K. Zimenko, D. Efimov, A. Polyakov, LMI-Based Finite-Time Stability Analysis of Homogeneous Systems with Sector Nonlinearities and Its Applications to Multi-Agent Control and Observation, **International Journal of Robust and Nonlinear Control**, 2026, (**IF**: 3.2)

IJ5. L. Luna, I. Chairez, A. Polyakov, Improved Trajectory Tracking for DC-Motors via Homogeneous PID Controller, **IEEE Transactions on Automation Science and Engineering**, 2026, (**IF**: 6.4)

IJ6. M. Ayamou, N. Espitia, A. Polyakov, E. Fridman, Homogeneous boundary control for a 1D reaction-diffusion PDE: modal decomposition approach, **Automatica**, 2026, (**IF**: 5.9)

IJ7. Y. Gou, A. Polyakov, G. Zheng, Homogeneous Unit Sliding Mode Control for Uncertain Mechanical Systems, **International Journal of Robust and Nonlinear Control**, 2025,(**IF**: 3.2)

IJ8. S. Wang, H. Duan , M. Li, A. Polyakov, G. Zheng, Invariant Ellipsoids Method for Homogeneous Leader-Following Consensus Control, **IEEE Transactions on Cybernetics**, 2025,(**IF**: 10.5)

IJ9. A. Polyakov, Y. Orlov, Finite/fixed-time homogeneous stabilization of infinite dimensional systems, **IEEE Transactions on Automatic Control**, 2025, (**IF**: 7.0)

IJ10. M. Ayamou, A. Polyakov, N. Espitia, E. Fridman, Homogeneous boundary control design for a 1D viscous Burgers equation: modal decomposition approach, **IMA Journal of Mathematical Control and Information**, 2025

IJ11. A. Polyakov, M. Krstic, Homogeneous Control Systems on Cones and Nonovershooting Finite-time Stabilizers, **SIAM Journal on Control and Optimization**, 2025, (**IF**: 2.3)

IJ12. M. Ayamou, N. Espitia, A. Polyakov, E. Fridman, Homogeneous predictor feedback for a 1D reaction–diffusion equation with input delay, **European Journal of Control**, 2025,(**IF**: 2.6)

IJ13. X. Ping, K. Zimenko, D. Efimov, A. Polyakov, Filtering homogeneous observer for linear MIMO system, **Automatica**, 2025, (**IF**: 5.9)

IJ14. H. Rios, M. Mera, A. Polyakov, A novel second-order sliding-mode controller for uncertain double integrator dynamics, **Automatica**, 2025, (**IF**: 5.9)

IJ15. K. Zimenko, D. Efimov, A. Polyakov, On hyperexponential stability and stabilization, **Automatica**, 2025, (**IF**: 7.0)

IJ16. Y. Zhou, A. Polyakov, G. Zheng, Robust finite-time stabilization of linear systems with limited state quantization, **Automatica**, 2025, (**IF**: 5.9)

IJ17. J. Wang, K. Zimenko, A. Polyakov, D. Efimov, An exact robust high-order differentiator with hyperexponential convergence, **IEEE Transactions on Automatic Control**, 2024, (**IF**: 7.0)

IJ18. Y. Zhou, A. Polyakov, G. Zheng, Finite/Fixed-Time Stabilization of Linear Systems With State Quantization, **IEEE Transactions on Automatic Control**, 2024, (**IF**: 7.0)

IJ19. K. Zimenko, D. Efimov, A. Polyakov, A. Kremlev, Finite-time stability analysis of homogeneous systems with sector nonlinearities, **Automatica**, 2024, (**IF**: 5.9)

IJ20. D. Efimov, A. Polyakov, X. Ping, Interval Observation and Control for Continuous-Time Persidskii Systems, **IEEE Transactions on Automatic Control**, 2024, (**IF**: 7.0)

IJ21. M. Li, H. Rios, S. Gutierrez-Martinez, A. Polyakov, G. Zheng, A. Dzul, A generalized homogeneity-based formation control for perturbed unicycle multi-agent systems, **Control Engineering Practice** , 2024, (**IF**: 4.6)

IJ22. S. Wang, H. Duan, G. Zheng, X. Ping, D. Boutat, A. Polyakov, Homogeneous control design using invariant ellipsoid method, **IEEE Transactions on Automatic Control**, 2024, (**IF**: 7.0)

IJ23. A. Polyakov, M. Krstic, Fixed-time Stabilization with a Prescribed Constant Settling Time by Static Feedback for Delay-Free and Input Delay Systems, **Int. Journal of Robust and Nonlinear Control**, 2024, (**IF**: 3.2)

IJ24. Y. Zhou, A. Polyakov, G. Zheng, Generalized Homogeneous Rigid-Body Attitude Control, **Automatica**, 2024, (**IF**: 5.9).

IJ25. D. Efimov, A. Polyakov, On converse Lyapunov theorem for fixed-time input-to-state stability, **SIAM Journal of Control and Optimization**, 2024. (**IF**: 2.3)

IJ26. X.X. Han, D. Efimov, A. Polyakov, K.N. Wu, Input-to-state stability analysis of heat equation with boundary finite-time control , **Automatica**, 2024, (**IF**: 5.9)

IJ27. A. Polyakov, Homogeneous Unit Sliding Mode Control, **IEEE Transactions on Automatic Control**, 2024. (**IF**: 7.0)

IJ28. A. Polyakov, M. Krstic, Finite- and Fixed-Time Nonovershooting Stabilizers and Safety Filters by Homogeneous Feedback, **IEEE Transactions on Automatic Control**, 2023. (**IF**: 7.0)

IJ29. A. Polyakov, D. Efimov, X. Ping, Consistent discretization of finite/fixed-time controllers, **Automatica**, 2023, (**IF**: 5.9).

IJ30. Y. Zhou, H. Rios, M. Mera, A. Polyakov, G. Zheng, A. Dzul, Homogeneity-Based Control Strategy for Trajectory Tracking in Perturbed Unicycle Mobile Robots, **IEEE Trans. on Control Systems Technology**, 2023. (**IF**: 3.9)

IJ31. M. Li, A. Polyakov, G. Zheng, On Generalized Homogeneous Leader-following Consensus Control for Multi-agent Systems, **IEEE Transactions on Control of Network Systems**, 2023. (**IF**: 5.0)

IJ32. Y. Zhou, A. Polyakov, G. Zheng, Generalized Homogeneous Control with Integral Action, **International Journal of Robust and Nonlinear Control**, 2023. (**IF**: 3.2)

IJ33. K. Zimenko, A. Polyakov, D. Efimov, Homogeneous Systems Stabilization Based on Convex Embedding, **Automatica**, 2023. (**IF**: 5.9)

IJ34. H. Rios, M. Mera, A. Polyakov, Perturbed Unicycle Mobile Robots: A Second-Order Sliding-Mode Trajectory Tracking Control, **IEEE Transactions on Industrial Electronics**, 2023. (**IF**: 7.2)

IJ35. A. Polyakov, D. Efimov, X. Ping, Energetically optimal finite-time stabilization of generalized homogeneous linear systems, **IEEE Transactions on Automatic Control**, 2023. (**IF**: 7.0)

IJ36. M. R. Mojallizadeh, B. Brogliato, A. Polyakov, et al., A survey on the discrete-time differentiators in closed-loop control systems: Experiments on an electro-pneumatic system, **Control Engineering Practice**, 2023. (**IF**: 4.6)

IJ37. K. Zimenko, A. Polyakov, D. Efimov, A. Kremlev, Homogeneity-based finite/fixed-time observers for linear MIMO systems, **International Journal of Robust and Nonlinear Control**, 2022. (**IF**: 3.2)

IJ38. K. Zimenko, D. Efimov, A. Polyakov, Adaptive finite-time and fixed-time control design using output stability conditions, **International Journal of Robust and Nonlinear Control**, 2022. (**IF**: 3.2)

IJ39. G. Perozzi, A. Polyakov, F. Miranda-Villatoro, B. Brogliato, Upgrading a linear controller to a sliding mode one: Theory and experiments, **Control Engineering Practice**, 2022, 105107. (**IF**: 4.6)

IJ40. Y. Braidizi, A. Polyakov, D. Efimov, W. Perruquetti, On finite-time stability analysis of homogeneous vector fields with multiplicative perturbations, **Int. Journal of Robust and Nonlinear Control**, 2022, 32 (15), 8280-8292. (**IF**: 3.2)

IJ41. A. Nekhoroshikh, D. Efimov, A. Polyakov, W. Perruquetti, I. Furtat, Hyperexponential and fixed-time stability of time-delay systems: Lyapunov-Razumikhin method, **IEEE Transactions on Automatic Control**, 2022, (**IF**: 7.0)

IJ42. A. Nekhoroshikh, D. Efimov, E Fridman, W Perruquetti, I Furtat, A. Polyakov, Practical fixed-time ISS of neutral time-delay systems with application to stabilization by using delays, **Automatica**, 2022, (**IF**: 5.9)

IJ43. K. Zimenko, A. Polyakov, D. Efimov, Robust feedback stabilisation of homogeneous differential inclusions, **International Journal of Control** , 2022, 95 (1), 33-41(**IF**: 1.6)

IJ44. D. Cruz-Ortiz, M. Ballesteros, A. Polyakov, D. Efimov, I. Chairez and A. Poznyak, Practical Realization of Implicit Homogeneous Controllers for Linearized Systems, **IEEE Transactions on Industrial Electronics**, 2022, (**IF**: 7.2)

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May 11th, 2026
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