

# List of publications

## International Journal - Special Issue

- [1] C. Prieur, S. Tarbouriech. Special Issue : New Directions on Hybrid Control Systems, *International Journal of Robust and Nonlinear Control*, vol.21, issue 10, pp.1063-1236, 2011.

## International Journal

- [2] C. Burgat, A. Benzaouia, S. Tarbouriech. Positively invariant sets of discrete-time systems with restrained controls. *Int. J. of Systems Science*, vol.21, no.7, pp.1249-1271, 1990.
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- [5] S. Tarbouriech et C. Burgat. Positively invariant sets for continuous-time systems with cone-preserving property. *Int. J. of Systems Science*, vol.24, no.6, pp.1037-1047, 1993.
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### International Conferences - Invited Sessions

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- [261] L. Hetel, J. Daafouz, S. Tarbouriech, C. Prieur. Reset Control Systems : Stabilization by Nearly-Periodic Reset, *World IFAC Congress*, Milan (Italy), September 2011.
- [262] C. Prieur, S. Tarbouriech, L. Zaccarian. Improving the Performance of Linear Systems by Adding a Hybrid Loop, *World IFAC Congress*, Milan (Italy), September 2011.
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- [287] M. Davo, F. Gouaisbaut, A. Banos, S. Tarbouriech, A. Seuret. Stability of Time-Delay Reset Control Systems with Time-Dependent Resetting Law, 5th IFAC Conference on Analysis and Design of Hybrid Systems, Atlanta (USA), October 2015.
- [288] V. Andrieu, B. Jayawardhana, S. Tarbouriech. Necessary and sufficient condition for local exponential synchronization of nonlinear systems, 54th IEEE Conference on Decision and Control (CDC 2015), Osaka (Japan), December 2015.
- [289] I. Queinnec, S. Tarbouriech, S. Gayadeen, L. Zaccarian. Static Anti-Windup Design for Discrete-Time Large-Scale Cross-Directional Saturated Linear Control Systems, 54th IEEE Conference on Decision and Control (CDC 2015), Osaka (Japan), December 2015.
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- [293] L.G. Moreira, L.B. Groff, J.M. Gomes da Silva Jr., S. Tarbouriech. Event-triggered PI control for continuous plants with input saturation. American Control Conference (ACC), pp. 4251-4256. Boston, (USA), July 2016.
- [294] P. Frasca, S. Tarbouriech, L. Zaccarian. A Hybrid Model of Opinion Dynamics with Limited Confidence, 10th IFAC Symposium on Nonlinear Control Systems, Monterey (USA), August 2016.
- [295] S. Zabi, I. Queinnec, S. Tarbouriech, M. Mazerolles. Controller Design for Analgesia with Quantized Pupil Size Variation Output and Saturating Infusion Rate, 10th IFAC Symposium on Nonlinear Control Systems, Monterey (USA), August 2016.

**National Conferences (or conferences without proceedings)**

- [296] M. Klai, C. Burgat et S. Tarbouriech. DoMynes de comportement non-linéaire asymptotiquement stable pour les systèmes linéaires continus à retour d'état

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- [298] C. Pittet, S. Tarbouriech et J. Mignot. Commande contrainte appliquée à un dispositif de rejet de perturbations dynamiques par masse inertielle. *Journées "Automatique et Aéronautique et Spatial"*, Toulouse (France), 1996.
- [299] S. Tarbouriech et J.C. Hennes. Conditions of stability via positive invariance of delay systems. *Colloque "Analyse et Commande des Systèmes à retards"*, Nantes (France), pp.185-196, March 1996.
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- [301] J.M. Gomes da Silva Jr., S. Tarbouriech, E.B. Castelan. Local stabilization of continuous-time linear systems subject to control constraints via minimal-order observer. *Proc. XII Brazilian Automatic Control Conference*, Uberlandia (Brazil), vol. IV, pp.1223-1228, September 1998.
- [302] J.M. Gomes da Silva Jr. et S. Tarbouriech. Análise de estabilidade local de sistemas lineares sujeitos à saturação de controles : uma abordagem baseada na solução de LMIs. *Proc. XII Brazilian Automatic Control Conference*, Uberlandia (Brazil), vol. III, pp.873-878, September 1998.
- [303] D. Henrion, S. Tarbouriech, V. Kucera. Polynomial methods and convex optimization for the control of input constrained systems. *1st Europoly Workshop, "Polynomial Systems Theory and Applications"*, Glasgow (UK), pp.57-71, April 1999.
- [304] D. Henrion et S. Tarbouriech. Relaxations LMI pour la stabilité robuste des systèmes linéaires à commande saturée. *Journées Doctorales d'Automatique CNRS*, pp.157-160, Nancy (France), September 1999.
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- [307] S. Tarbouriech, G. Garcia, I. Queinnec. Stabilisation de systèmes linéaires à retard avec prise en compte des saturations en vitesse et en position des actionneurs. *Conférence Internationale Francophone d'Automatique (CIFA '2006)*, pp.190-195, Lille (France), July 2000.
- [308] E.B. Castelan et S. Tarbouriech. Weak and strong D-invariant polyhedral sets for discrete-time singular system. *Proc. XIII Brazilian Automatic Control Conference*, Florianopolis (Brazil), September 2000.



- [309] J.M. Gomes da Silva Jr., R. Reginatto, S. Tarbouriech. Anti-windup design with guaranteed regions of stability for discrete-time linear systems with saturating controls, *XIV Congresso Brasileiro de Automatica (CBA'2002)*, Natal (Brazil), pp.2403-2408, September 2002.
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- [313] P. Langouët, S. Tarbouriech, G. Garcia. Méthode anti-windup pour un système linéaire soumis à des saturations de l'actionneur en amplitude et en dynamique. Journées Doctorales d'Automatique (JDA'2003), Valenciennes (France), pp.251-256, June 2003.
- [314] I. Queinnec, S. Tarbouriech. A saturated control strategy for a wastewater equalization system, *Seminario Annual de Automatica, Electronica Industrial e Instrumentacion. Electronique de Puissance du Futur (SAAEI-EPF'04)*, Toulouse (France), September 2004.
- [315] G. Garcia, S. Tarbouriech. Preliminary results on the stabilization of a linear system with actuator and sensor saturation, *Seminario Annual de Automatica, Electronica Industrial e Instrumentacion. Electronique de Puissance du Futur (SAAEI-EPF'04)*, Toulouse (France), September 2004.
- [316] V.J.S. Leite, S. Tarbouriech, P.L.D. Peres. Controle robusto  $H_\infty$  de sistemas discretos com atraso nos estados : condiciones LMI independientes do atraso, *XV Congresso Brasileiro de Automatica (CBA'2004)*, Gramado (Brazil), September 2004.
- [317] V.G. da Silva, E.B. Castelan, G. Garcia, S.Tarbouriech. Sobre observadores desacoplados de perturbacao para sistemas descritores, *XV Congresso Brasileiro de Automatica (CBA'2004)*, Gramado (Brazil), September 2004.
- [318] S. Tarbouriech, G. Garcia, J.M. Gomes da Silva Jr. Dynamic output stabilization of time delay systems with input constraints, *XV Congresso Brasileiro de Automatica (CBA'2004)*, Gramado (Brazil), September 2004.
- [319] C. Paim, J.M. Gomes da Silva Jr., E.B. Castelan, S.Tarbouriech. Sintese de observadores de estado para sistemas lineares com entradas saturantes, *XV Congresso Brasileiro de Automatica (CBA'2004)*, Gramado (Brazil), September 2004.
- [320] M. Ariola, S. Tarbouriech, C.T. Abdallah. Saturated controller design of an ABR explicit rate algorithm for ATM switches, *2nd Workshop CNRS-NSF : Applications of Time-Delays Systems*, Nantes (France), September 2004.

- [321] G. Valmorbidia, I. Queinnec, P.L.D. Peres, S. Tarbouriech. Synthèse de contrôleurs pour des systèmes avec retard et entrée saturée, *Conférence Internationale Francophone d'Automatique (CIFA'2006)*, Bordeaux (France), May 2006.
- [322] V. F. Montagner, P. L. D. Peres, I. Queinnec, S. Tarbouriech. Determinação de regiões de estabilidade robusta para sistemas lineares incertos com saturação de atuadores : uma abordagem LMI, *XVI Congresso Brasileiro de Automatica (CBA'2006)*, Bahia (Brazil), October 2006.
- [323] V.F.Montagner, T.R.Calliero, P.L.D.Peres, I.Queinnec, S.Tarbouriech. Controle de sistemas chaveados com saturação atuadores for meio de desigualdades matriciais lineares (06867) Rapport LAAS N°06867 Manifestations avec actes à diffusion limitée, *XVI Congresso Brasileiro de Automatica (CBA'2006)*, Bahia (Brazil), October 2006.
- [324] G.Valmorbidia, I.Queinnec, P.L.D.Peres, S.Tarbouriech. Controle descentralizado para sistemas saturados com áreasos, *XVI Congresso Brasileiro de Automatica (CBA'2006)*, Bahia (Brazil), October 2006.
- [325] D. Eckhard, J.M. Gomes da Silva Jr., S. Tarbouriech, C. Prieur. Output dynamic feedback controller design for disturbance attenuation taking into account both sensor and actuator saturations, *XVIII Congresso Brasileiro de Automatica (CBA'2008)*, Juiz de Fora (Brazil), October 2008.

### Seminars & workshops

- [326] S. Tarbouriech. Stabilization of linear uncertain systems subject to input constraints, UTIA, Prague, October 1997 (1h).
- [327] S. Tarbouriech. About systems subject to input saturations, Knoxville, USA, October 2000.
- [328] S. Tarbouriech. Stabilisation de systèmes linéaires à retards, saturés et perturbés. Réunion du GDR Systèmes à retards, Paris (France), April 2001 (1h).
- [329] S. Tarbouriech. Quelques principes de base sur les systèmes saturés, ONERA, Toulouse, September 2001 (1h)
- [330] S. Tarbouriech. Quelques problèmes et solutions pour l'étude des systèmes saturés, Heudiasyc, Compiègne (France), February 2002 (1h30).
- [331] S. Tarbouriech. Synthesis of anti-windup loops for enlarging the stability region of time-delay systems with saturating inputs, GDR Systèmes à retards, Paris (France), May 2002 (30mn).
- [332] S. Tarbouriech et G. Garcia. Systèmes avec saturation du signal de commande - Approche anti-windup, Bordeaux (France), December 2002 (1h).
- [333] S. Tarbouriech. Synthesis of anti-windup loops for enlarging the stability region of time-delay systems with saturating inputs, Knoxville, USA, December 2002.
- [334] G. Garcia et S. Tarbouriech. Singularly perturbed systems, Valladolid (Espagne), June 2003 (1h).

- [335] S. Tarbouriech. Anti-windup approaches and questions (by the LAAS Team in GARTEUR project AG15), Leicester (UK), April 2004 (30mn).
- [336] S. Tarbouriech. Advanced anti-windup solutions (by the LAAS Team in GARTEUR project AG15), Toulouse (France), February 2005 (30mn).
- [337] S. Tarbouriech. Preliminary results about anti-windup strategy for systems subject to actuator and sensor saturations, ETH-Zürich (Suisse), April 2005 (1h30).
- [338] S. Tarbouriech. Quelques éléments sur les systèmes soumis à des saturations, L'Observatoire de Paris-Meudon, Meudon (France), June 2005 (1h).
- [339] S. Tarbouriech. Problèmes de stabilité et de stabilisation pour les systèmes avec saturations imbriquées, LATP, Marseille (France), June 2005 (1h).
- [340] S. Tarbouriech. Preliminary results about Anti-windup strategy for systems subject to limited actuator and sensor, USP, Sao Paulo (Brazil), September 2005 (1h).
- [341] S. Tarbouriech. Stability and stabilization problems for linear systems presenting nested saturations, UNICAMP, Campinas (Brazil), September 2005 (1h).
- [342] S. Tarbouriech. Preliminary results about anti-windup strategy for systems subject to actuator and sensor saturations, USP, Sao Carlos (Brazil), October 2005 (1h).
- [343] S. Tarbouriech. UNICAMP, Campinas (Brazil), October 2005 (1h).
- [344] S. Tarbouriech. Analyse de la stabilité pour un système avec backlash, Séminaire de groupe à Luchon, January 2007 (1h).
- [345] S. Tarbouriech. Anti-windup for stability region enlargement. Final workshop AG15, Linköping, Sweden, May 2007 (30mn).
- [346] S. Tarbouriech. A practical method for fixed-order anti-windup design. Porto Alegre, Brazil, November 2007 (1h).
- [347] S. Tarbouriech. Stability and performance analysis for systems with backlash, UNICAMP, Campinas Brazil, November 2007 (1h).
- [348] S. Tarbouriech. Technique anti-windup, Toulouse (séminaire AIRSYS), March 2008.
- [349] S. Tarbouriech. Stability analysis and state feedback control design of discrete-time systems with a backlash, University of Leicester, Leicester, UK, October 2009 (1h).
- [350] S. Tarbouriech. Stabilité et stabilisation de systèmes linéaires avec des fonctions de saturations généralisées, Séminaire de groupe à Luchon, February 2010 (1h).
- [351] S. Tarbouriech. Ultimate bounded stability and stabilization of linear systems interconnected with generalized saturated functions, University of Tor Vergata, Roma, Italy, April 2010 (1h).
- [352] S. Tarbouriech. Stability analysis and state feedback control design of discrete-time systems with a backlash, University of Tor Vergata, Roma, Italy, April 2010 (1h).

- [353] S. Tarbouriech. Commande des systèmes avec informations limitées, Séminaire de groupe à Albi, March 2011 (1h).
- [354] S. Tarbouriech, J.M. Biannic, G. Garcia. Prise en compte explicite des saturations pour l'analyse et la synthèse de lois de pilotage, Toulouse (séminaire AIRSYS), April 2011 (30mn).
- [355] S. Tarbouriech, J.M. Biannic. Variations autour de la synthèse anti-windup Eléments théoriques & application au filtrage anti-PIO, November 2011 (1h).
- [356] S. Tarbouriech. Isolated nonlinear elements in the control loop - Keep the control, Workshop France -Atlanta 2013 "Aerospace Engineering and the Life Sciences, opportunities for the future", Atlanta, October 2013 (30mn).
- [357] S. Tarbouriech. Global asymptotic stabilization for a class of bilinear systems by hybrid (output) feedback, University of Groningen (The Netherlands), September 2013 (1h).
- [358] S. Tarbouriech. Constructive LMI Approaches for Anti-Windup Compensator Design for Systems Subject to Saturation, University of Oxford (UK), November 2013 (1h).
- [359] S. Tarbouriech. Global asymptotic stabilization for a class of bilinear systems by hybrid (output) feedback, Séminaire à l'UNICAMP (Brazil), August 2014 (1h).
- [360] S. Tarbouriech. Control with limited information. A focus on event-triggered control (LQ-based event-triggered co-design for saturated linear systems), Lulea University (Sweden), September 2015 (1h).
- [361] S. Tarbouriech. Prise en compte des contraintes de communication - Un focus sur les systèmes quantifiés, Conférence plénière aux journées de l'automatique du GDR MACS, October 2015 (1h).
- [362] S. Tarbouriech. Stability Analysis and Stabilization of Systems with Input Backlash, University of Trento, (Italy), September 2016 (1h).

### Monograph

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