Curriculum vitæ (version du 21 avril 2006)

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Né le 17 Septembre 1964 à Fontenay-aux-Roses (92)
Nationalité française
Langues pratiquées : anglais, grec moderne, russe.

Diplômes

- Habilitation à diriger des recherches, Université Paris XI-Orsay, Novembre 2005.

- Thèse de Doctorat, discipline Mathématiques et Automatique, Université Paris IX-Dauphine, Mars 1990.

- Ecole Nationale Supérieure des Techniques Avancées (ENSTA), Paris (France), promotion 88.

- DEA Mathématiques et Automatique, l'Université Paris IX-Dauphine, 1987.

- Ecole Polytechnique, Palaiseau (France), promotion X83.

Parcours professionnel

- Elève ingénieur à l'Ecole Polytechnique (01/09/83–1/08/86)

- Ingénieur de l'Armement à l'ENSTA (01/09/86–31/08/88) ; à l'AMX/APX, Satory, mis à disposition de l'INRIA (01/09/88–31/08/90) ; à l'ETCA/DRET/DGA, Arcueil (01/09/90–28/02/92)

- Chargé de recherche à l'INRIA, U.R. de Rocquecourt (2ème classe 01/03/92–14/09/94 ; 1ère classe depuis le 15/09/94)

Responsabilités collectives dans des équipes et projets de recherche
  — Coordinateur de l'Action Concertée Incitative "Technologies pour la Santé" SCARAMOCO, Modélisation et commande de systèmes biologiques. Application au système cardio-respiratoire (2001-2003).
  — Responsable pour l'INRIA, U.R. de Rocquencourt, des activités du Multi-partner Marie Curie Training Site intitulé Control Training Site (débutant en 2002).
  — Responsable pour l'INRIA des activités du PICS CNRS-NSF "Systèmes à retard" (2002/2004).
  — Responsable pour l'INRIA, U.R. de Rocquencourt, des activités du projet Polonium "Théorie et applications des systèmes nD, des systèmes à retard et de la commande par apprentissage itératif" (2003/2004).
  — Responsable français du projet "Analyse et commande de systèmes à retard" de l'Institut Liapunov (1995/1997 et 1997/1999).
  — Coresponsable avec M. Akian du projet INRIA-NSF "Contrôle des oscillations de systèmes à relais et retard" (01/9/00–01/09/02, prolongé au 31/12/02).
  — Animation du séminaire du projet SOSSO (invitation de spécialistes).

Encadrement d'activités de recherche

— Thèse de Shengwen Li (1993/1996) sur la modélisation de pot catalytique : co-encadrement (10%) avec M. Sorine (90%). Coopération dans l'étude de certains résultats mathématiques.

— Stage de DEA (1995, 4 mois) de Thierry Bonald sur la modélisation du contact pneu/sol : co-encadrement (30%) avec M. Sorine.

— Stage de DEA (1995, 4 mois) de Philippe Perrot sur le diagnostic et la commande d'un moteur à essence dépollué : co-encadrement (30%) avec M. Sorine.

— Post-doc Kamal Aouchiche (1996/1997, 1 an) sur l'étude de la régulation de richesse pour les moteurs à essence : co-encadrement (90%) avec M. Sorine. Délimitation de l'étude, recherche en commun, rédaction conjointe d'un article.

— Post-doc Sophie Bismuth (1999/2000, 9 mois) sur l'étude de systèmes dynamiques à relais et retard intervenant en contrôle : co-encadrement (30%) avec M. Akian. Définition conjointe du sujet, recherche en commun.

— Post-doc A. Sakat (2003, 1 an) sur le contrôle de systèmes impulsionnels : co-encadrement (90%) avec M. Sorine. Délimitation de l'étude, recherche en commun.

— Projet personnel en laboratoire (cycle de 2ème année de l'ENSTA) Jean-Christophe Reussner (2005, 2 mois) sur la stabilité des systèmes à retards (100%).

Autres responsabilités collectives

● **Organisation de congrés internationaux.**

— Responsable de l'organisation locale (*Chairman of the national organizing committee*) du *IFAC workshop on Time-Delay Systems TDS03*, Rocquencourt, 2003.

— Membre du comité de programme (*International program committee*) du *5th IFAC workshop on Time-Delay Systems TDS04*, Leuven (Belgique), 2004, du *4th International workshop on multidimensional systems NDS2005*, Wuppertal (Allemagne), 2005, du *6th IFAC workshop on Time-Delay Systems TDS06*, L'Aquila (Italie), 2006 et du *5th IFAC Symposium on Robust Control Design* (Rocond 2006), Toulouse, 2006.

● **Charges électives et participation à des commissions.**

— Membre des Commission de spécialistes, 61ème Section, de l'Université Paris Sud-Orsay (depuis 2000) et de l'Université Henri Poincaré de Nancy (depuis 2001).

— Membre de la commission d'attribution des bourses post-doctorales INRIA (1999).

— Elu à la CAP (depuis 1995).

Séminaires, mobilité

— 1994 (1 semaine) : Invitation à l'Institut de Mathématiques, Académie des Sciences de la République tchèque, Prague.

— 1996 (3 semaines) : Invitation à l'Institute of Information Transmission Problems (IPPI), Académie des Sciences de Russie, Moscou.

— 1999/2000 (10 mois) : Séjour à l'Ecole polytechnique, Athènes, Grèce, dans le cadre du Programme européen TMR "Nonlinear Control Network".

— Présentation de séminaires, dans des universités ou instituts de recherche français : Compiègne, Annecy, Nantes, Longwy, Toulouse . . ., ou étrangers : Moscou et Saint-Pétersbourg (Russie), Florence et Sienne (Italie), Prague (République tchèque), Berlin (Allemagne), Athènes, Thessalonique et Xanthi (Grèce), Campinas, Rio de Janeiro et Petrópolis (Brésil), Atlanta (USA) . . .

Autres aspects de l'activité scientifique

— Rapporteur de la thèse de doctorat, spécialité Robotique, de H. Arioui à l'Université d'Evry Val d'Essonne (décembre 2002).

— Membre du jury de thèse de doctorat (Unicamp, Campinas, Brésil et INSA-Toulouse) de V.J.S. Leite (août 2005).

— Referee régulier pour les périodiques suivants : SIAM Journal on Control and Optimization ; IEEE Transactions on Automatic Control ; Automatica ; Systems and Control Letters ; European Journal of Control ; International Journal

of Control ; International Journal of Robust and Nonlinear Control ; Journal Européen des Systèmes Automatisés ; Systems, Man and Cybernetics - Part B ; Journal of Dynamical and Control Systems...

Outstanding reviewer de la revue Automatica (1er juillet 2003/30 juin 2004).

Referee régulier pour les conférences suivantes : IEEE Conference on Decision and Control, European Control Conference, American Control Conference...

— Coordinateur, avec le Prof. J. Nekovář (Université Paris VI-Jussieu), d'une collecte de livres et de fonds organisée par la SMF et la SMAI au profit de la Bibliothèque de l'Université Charles à Prague, après les inondations d'août 2002.

— Participation aux activités du groupe de travail "Systèmes à retards" du GdR Automatique.

— Participation aux activités du groupe de travail "Commande robuste de systèmes multivariables" du GdR Automatique.

Enseignement

— 1993/1998 : Petites classes du cours de 2ème année "Contrôle linéaire des systèmes dynamiques" à l'Ecole des Mines (ENSMP), avec B. d'Andrea-Novel ($\sim$ 20h/an).

— 1993/1999 : Petites classes du cours de 2ème année "Systèmes linéaires" à l'Ecole des Techniques Avancées (ENSTA), avec L. El Ghaoui, R. Nikoukhah ($\sim$ 20h/an).

— 2000 : Cours "Robust absolute stability of delay systems" (1h30) dans le cadre de l'Ecole d'Eté d'Automatique de Grenoble.

— 2003/2004 et 2004/2005 : Responsable du cours de 3ème année "Inégalités linéaires matricielles en commande" à l'ENSTA (21h/an).

— 2004 : Cours "Advanced tools for system analysis and design by LMI techniques" (3h00) à l'Unicamp, Campinas (Brésil).

Valorisation et transfert technologique

Participation à des études pour GIAT Industries (modélisation du frottement sec et asservissement optimal pour une chaîne de pointage du type Leclerc), Renault (modélisation du contact pneu/sol, régulation de la richesse pour les moteurs à essence).

Chapitre 1

Liste des publications

Est ici regroupée la liste de l'ensemble des publications de l'auteur, à la date du 21 avril 2006, classées par type.

1   Thèses

[A1] P.-A. B., *Etude mathématique d'un modèle de frottement sec : le modèle de P.R. Dahl*, Thèse de Doctorat en Science, Mathématiques et Automatique, Université Paris IX-Dauphine, 5 mars 1990

[A2] P.-A. B., *Mémoire, hystérésis, retards, incertitudes. Quelques résultats de modélisation, d'analyse et de commande* Thèse d'habilitation à diriger des recherches, Université Paris-Sud, 21 novembre 2005

2   Articles parus dans des revues internationales avec comité de lecture

[B1] P.-A. B., Mathematical study of the Dahl's friction model, *European J. Mech. A Solids* **11** no 6 (1992) 835–848

[B2] P.-A. B., A.M. Krasnosel'skii, M. Sorine, A.A. Vladimirov, Nonlinear resonance in systems with hysteresis, *Nonlinear Analysis, Theory, Methods and Applications* **27** no 5 (1996) 561–577

[B3] P.-A. B., A.M. Krasnosel'skii, M. Sorine, A.A. Vladimirov, Forced oscillations in control systems with hysteresis, *Doklady Mathematics* **53** no 2 (1996) 312-315

[B4] P.-A. B., A.M. Krasnosel'skii, Popov criterion and forced periodic oscillations, *Automation and Remote Control* **59** no 4 (1998) 457-466

[B5] M. Akian, P.-A. B., On super-high-frequencies in discontinuous 1sr-order delay-differential equations, *Journal of Differential Equations* **162** (2000) 326–358

[B6] P.-A. B., Extension of Popov absolute stability criterion to nonautonomous systems with delays, *International Journal of Control* **73** no 15, 1349–1361 (2000)

[B7] P.-A. B., A.M. Krasnosel'skii, D.I. Rachinskii, Sector estimates of nonlinearities and self-oscillation existence in control systems, *Automation and Remote Control* **61** no 6 (2000) 889-903

[B8] P.-A. B., Lyapunov-Krasovskii functionals and frequency domain : delay-independent absolute stability criteria for delay systems, *International Journal of Robust and Nonlinear Control* **11** no 8 (2001) 771–788

[B9] P.-A. B., LMI characterization of the strong delay-independent stability of delay systems via quadratic Lyapunov-Krasovskii functionals, *Systems and Control Letters* **43** no 4 (2001) 263–274

[B10] P.-A. B., A.M. Krasnosel'skii, D.I. Rachinskii, Strong resonances under Hopf bifurcations in control systems, *Automation and Remote Control* **62** no 11 (2001) 1783–1802

[B11] P.-A. B., Stability of nonlinear delay systems : delay-independent small gain theorem and frequency domain interpretation of the Lyapunov-Krasovskii method, *International Journal of Control* **75** no 4 (2002) 265–274

[B12] M. Akian, P.-A. B., M. Sorine, Control of delay systems with relay, *IMA Journal on Mathematical Control and Information* **19** (2002) 133–155

[B13] P.-A. B., Lyapunov equation for the stability of 2-D systems, *Multidimensional Systems and Signal Processing* **13** no 2 (2002) 201–222

[B14] P.-A. B., Lyapunov equation for the stability of linear delay systems of retarded and neutral type, *IEEE Trans. Automat. Control* **47** no 2 (2002) 327–335

[B15] P.-A. B., Absolute stability criteria with prescribed decay rate for finite-dimensional and delay systems, *Automatica* **38** no 11 (2002) 2015–2019

[B16] P.-A. B., A.B. Piunovskiy, M. Sorine, Controlled linear system with delayed relay output under impulse random disturbances, *Automatica* **39** no 8 (2003) 1399–1405

[B17] P.-A. B., A convex approach to robust stability for linear systems with uncertain scalar parameters, *SIAM J. on Control and Optimization* **42** no 6 (2004) 2016–2042

[B18] P.-A. B., An existence result for polynomial solutions of parameter-dependent LMIs, *Systems and Control Letters* **51** no 3-4 (2004) 165–169

[B19] F. Mazenc, P.-A. B., Backstepping Design for Time-Delay Nonlinear Systems, *IEEE Trans. Automat. Control* **51** no 1 (2006) 149–154

[B20] P. Tsiotras, P.-A. B., An Exact Stability Analysis Test for Single-Parameter Polynomially-Dependent Linear Systems, *IEEE Trans. Automat. Control* (to appear)

[B21] D. Angeli, P.-A. B., Stability of leaderless discrete-time multi-agent systems (submitted)

3   Chapitres de livres

[C1] P.-A. B., M. Sorine, Friction modeling by hysteresis operators. Application to Dahl, sticktion and Stribeck effects, *Models of hysteresis* (Trento, 1991), 10–19, Pitman Research Notes in Mathematics Vol. **286**, Longman Sci. Tech., Harlow (1993)

[C2] P.-A. B., Extension of Popov criterion to time-varying nonlinearities : LMI, frequential and graphical conditions, *Stability and stabilization of nonlinear systems*, D. Aeyels, F. Lamnabhi-Lagarrigue, A. van der Schaft (Eds.), Lecture notes in control and information sciences Vol. **246**, Springer-Verlag, Berlin Heidelberg (1999) 95–114

[C3] P.-A. B., Robust absolute stability of delay systems, *Nonlinear control in the year 2000*, Vol. 1, F. Lamnabhi-Lagarrigue, A. Isidori, W. Respondek (Eds.), Springer-Verlag (2000) 207–238

[C4] P.-A. B., Root-clustering for multivariate polynomials and robust stability analysis, *Unsolved problems in mathematical systems and control theory*, V.D. Blondel, A. Megretski (Eds.), Princeton University Press, Princeton Oxford (2004) 299–303

[C5] P.-A. B., From Lyapunov-Krasovskii Functionals for Delay-Independent Stability to LMI Conditions for μ-Analysis, *Advances in Time-Delay Systems*, Lecture Notes in Computational Science and Engineering Vol. **38**, Springer, S.-I. Niculescu, K. Gu (Eds.) (2004) 75–88

[C6] P.-A. B., Stabilization of LPV Systems, *Positive Polynomials in Control*, Lecture Notes in Control and Information Sciences Vol. **312**, Springer, D. Henrion, A. Garulli (Eds.) (2005) 103–116

4   Articles parus dans les actes de conférences internationales, avec comité de lecture

[D1] P.-A. B., L. El Ghaoui, Factorization and smallest-norm roots of multivariable polynomials in robustness analysis, *Proc. of 30th IEEE CDC*, Brighton (United Kingdom), December 1991

[D2] P.-A. B., M. Sorine, A system theoretic approach of systems with hysteresis. Application to friction modelling and compensation, *Proc. of 2nd European Control Conference*, Gröningen (Netherlands), 28 June-1 July 1993, 1844–1849

[D3] P.-A. B., M. Sorine, Modelling and control of a class of systems with hysteresis. Application to friction compensation, *Proc. of IEEE Mediterranean Symposium in New Directions in Control Theory and Applications*, Chania (Greece), 21-23 June 1993

[D4] P.-A. B., M. Sorine, Easy-to-use realistic dry friction models for automatic control, *Proc. of 3rd European Control Conference*, Roma (Italy), 5-8 Sept. 1995, 3788–3794

[D5] P.-A. B., T. Bonald, M. Sorine, Hysteresis Operators and Tyre Friction Models. Application to Vehicle Dynamic Simulation, *Proc. of ICIAM 95*, Hamburg (Germany), 3-7 July 1995

[D6] P.-A. B., A.M. Krasnosel'skii, Periodic solutions of linear systems coupled with relay, in : Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, Greece, 1996), *Nonlinear Analysis, Theory, Methods and Applications* **30** (1997), no. 2, 687–696

[D7] P.-A. B., M. Sorine, Dry friction models for automatic control, *Proc. of Euromech Colloquium 351 : Systems with Coulomb friction*, Vadstena (Sweden), 5-7 August 1996

[D8] P.-A. B., A. Dauron, M. Sorine, Modèles de frottements secs pour les applications embarquées. Application au contact pneu/sol *Actes des Journées Européennes de Frottement JEF95*, Villeneuve d'Ascq (France), 12-13 Décembre 1995

[D9] D. von Wissel, R. Nikoukhah, F. Delebecque, P.-A. B., M. Sorine, Output trajectory tracking for mechanical systems with dry friction : a DPC approach, *Proc. of 4th European Control Conference*, Brussels (Belgium), 1-4 July 1997

[D10] K. Aouchiche, P.-A. B., M. Sorine, P.I. control of periodic oscillations of relay systems, *Proc. of 1st Conf. on Control of Oscillations and Chaos*, St-Petersburg (Russia), 27-29 August 1997

[D11] M. Akian, P.-A. B., M. Sorine, P.I. control of nonlinear oscillations for a system with delay, *Proc. of 8th IFAC Conf. on Large Scale Systems : Theory and Applications*, Patras (Greece), 15-17 July 1998 [invited]

[D12] M. Akian, P.-A. B., On super-high-frequencies in discontinuous 1sr-order delay-differential equations, *Proc. of 6th IEEE Mediterranean Conference on Control and Systems*, Alghero (Italy), 9-11 June 1998 [invited]

[D13] P.-A. B., A.M. Krasnosel'skii, Popov-like frequency criterion for existence of forced periodic oscillations, *Proc. of 37th IEEE CDC*, Tampa (Florida), December 1998

[D14] P.-A. B., A.M. Krasnosel'skii, Popov absolute stability criterion for time-varying multivariable nonlinear systems, *Proc. 5th European Control Conference*, Karlsruhe (Germany), September 1999

[D15] P.-A. B., Delay-independent criterion of absolute stability for nonautonomous systems with variable delays, *Modern applied mathematics in circuits, systems and control. Proc. of IMACS/IEEE CSCC'99*, Athens (Greece), World Scientific Engineering Society, 300–305 (1999)

[D16] P.-A. B., Absolute stability of nonautonomous delay systems : delay-dependent and delay-independent criteria, *Proc. of 38th IEEE CDC*, Phoenix (Arizona), December 1999

[D17] P.-A. B., Absolute α-stability for rational and delay systems, *Proc. of 14th Int. Symp. of Mathematical Theory of Networks and Systems MTNS 2000*, Perpignan (France), June 2000

[D18] P.-A. B., Stability of linear delay systems. A note on frequency domain interpretation of Lyapunov-Krasovskii method, *Proc. of 14th Int. Symp. of Mathematical Theory of Networks and Systems MTNS 2000*, Perpignan (France), June 2000

[D19] P.-A. B., Lyapunov-Krasovskii method and strong delay-independent stability of linear delay systems, *Proc. of 2nd IFAC Workshop on Linear Time Delay Systems*, Ancona (Italy), September 2000, 5–9

[D20] P.-A. B., Stability criteria for delay systems with sector-bounded nonlinearities, *Proc. of American Control Conference*, Arlington (Virginia), June 2001

[D21] P.-A. B., S.-I. Niculescu, A note on frequency domain interpretation of Lyapunov-Krasovskii method in control of linear delay systems, *Proc. of American Control Conference*, Arlington (Virginia), June 2001

[D22] P.-A. B., Bounded-real lemma for 2-D systems. Application to the analysis of delay-independent H_∞ performance of delay systems, *Proc. 5th IFAC Symposium "Nonlinear Control Systems" NOLCOS*, St.Petersburg (Russia), July 2001

[D23] P.-A. B., A Lyapunov equation equivalent to internal stability of 2-D systems, *Proc. of 1st IFAC Symposium on System Structure and Control*, Prague (Czech Republic), August 2001

[D24] P.-A. B., Solvability of a Lyapunov equation for characterization of asymptotic stability of linear delay systems, *Proc. of 6th European Control Conf.*, Porto (Portugal), September 2001

[D25] P.-A. B., Delay-independent small gain theorem and frequency domain interpretation of the Lyapunov-Krasovskii method for stability of nonlinear delay systems, *Proc. of 6th European Control Conf.*, Porto (Portugal), September 2001

[D26] P.-A. B., Nonconservative LMI criteria for delay-independent stability of delay systems, based on quadratic Lyapunov-Krasovskii functionals, *Proc. of 40th IEEE CDC*, Orlando (Florida), December 2001

[D27] P.-A. B., LMI approach to spectral stabilizability of linear delay systems, and stabilizability of linear systems with complex parameter *Proc. of 40th IEEE CDC*, Orlando (Florida), December 2001

[D28] P.-A. B., Delay-independent circle criterion and Popov criterion, *Proc. of 3rd IFAC Workshop on Time Delay Systems*, Santa Fe (New Mexico), December 2001

[D29] P.-A. B., A.B. Piunovskiy, M. Sorine, Optimal control of stochastic linear system with delayed relay output, *Proc. of 15th IFAC World Congress*, Barcelona (Spain), July 2002

[D30] P.-A. B., Root location of multivariable polynomials and stability analysis, *Open problem book, in Proc. of 15th Int. Symp. of Mathematical Theory of Networks and Systems MTNS 2000*, University of Notre-Dame (Indiana), August 2002.

[D31] P.-A. B., Nonconservative LMI approach to robust stability for systems with uncertain scalar parameters, *Proc. of 41st IEEE CDC*, Las Vegas (Nevada), December 2002

[D32] P.-A. B., LMIs for delay-independent properties of delay systems and input-output analysis of systems with complex parameter *Proc. of 41st IEEE CDC*, Las Vegas (Nevada), December 2002

[D33] P.-A. B., G. Ferrari-Trecate, Stability analysis of discrete-time switched systems through Lyapunov functions with nonminimal state, *Proc. of IFAC Conf. on Analysis and Design of Hybrid Systems ADHS03*, St-Malo (France), June 2003

[D34] P.-A. B., Stabilization of LPV systems, *Proc. of 42nd IEEE CDC*, Maui (Hawai), December 2003

[D35] P.-A. B., F. Mazenc, Backstepping design for time-delay nonlinear systems, *Proc. of 42nd IEEE CDC*, Maui (Hawai), December 2003

[D36] P.-A. B., C. Prieur, On existence of smooth solutions of parameter-dependent convex programming problems, *Proc. of 16th International Symposium on Mathematical Theory of Networks and Systems (MTNS2004)*, Leuven (Belgium), July 2004

[D37] P.-A. B., On robust semidefinite programming, *Proc. of 16th International Symposium on Mathematical Theory of Networks and Systems (MTNS2004)*, Leuven (Belgium), July 2004

[D38] P. Tsiotras, P.-A. B., An exact stability test for one-parameter polynomially-dependent linear systems, *Proc. of 43rd IEEE CDC* (Bahamas), December 2004

[D39] X. Zhang, P. Tsiotras, P.-A. B., Multi-Parameter Dependent Lyapunov Functions for the Stability Analysis of Parameter-Dependent LTI Systems, *Proc. of 13th Mediterranean Conference on Control and Automation*, Limassol (Cyprus), June 2005

[D40] D. Angeli, P.-A. B., Extension of a result by Moreau on stability of leaderless multi-agent systems, *Proc. of 44th IEEE CDC*, Sevilla (Spain), December 2005

[D41] P.-A. B., G. Ferrari-Trecate Average consensus problems in networks of agents with delayed communications, *Proc. of 44th IEEE CDC*, Sevilla (Spain), December 2005

[D42] P.-A. B., T. Iwasaki, LMI characterisation of robust stability for time-delay systems : singular perturbation approach (submitted)

[D43] P.-A. B., R.C.L.F. Oliveira, V.F. Montagner, P.L.D. Peres, Existence of homogeneous polynomial solutions for parameter-dependent Linear Matrix Inequalities with parameters in the simplex (submitted)

5 Rapports de recherche

[E1] P.-A. B., A.M. Krasnosel'skii, M. Sorine, A.A. Vladimirov, Nonlinear resonance in systems with hysteresis, INRIA Research report 2689, 1995

[E2] P.-A. B., A.M. Krasnosel'skii, M. Sorine, Dither in systems with hysteresis, INRIA Research report 2690, 1995

[E3] M. Akian, P.-A. B., M. Sorine, P.I. control of nonlinear oscillations for a system with delay, INRIA Research report 3422, 1998

[E4] M. Akian, P.-A. B., On super-high-frequencies in discontinuous 1st-order delay-differential equations, INRIA Research report 3443, 1998

[E5] P.-A. B., A.M. Krasnosel'skii, An extension of Popov criterion to multivariable time-varying nonlinear systems. Application to criterion for existence of stable limit cycles, INRIA Research report 3512, 1998

[E6] P.-A. B., Extension of Popov absolute stability criterion to nonautonomous systems with delays, INRIA Research report 3625, 1999

[E7] P.-A. B., A.M. Krasnosel'skii, D.I. Rachinskii, Sector Estimates of Nonlinearities and Existence of Cycles in Control Systems, Institute for Nonlinear Sciences, National University of Ireland, University College, Cork, report 00-002 (March 2000)

[E8] P.-A. B., LMI characterization of the strong delay-independent stability of delay systems via quadratic Lyapunov-Krasovskii functionals, Report research no 3968, INRIA (July 2000)

[E9] P.-A. B., Stability of nonlinear delay systems : delay-independent small gain theorem and frequency domain interpretation of the Lyapunov-Krasovskii method, Report research no 3969, INRIA (July 2000)

[E10] P.-A. B., Lyapunov equation for the stability of 2-D systems, Report research no 4014, INRIA (September 2000)

[E11] P.-A. B., Lyapunov equation for the stability of linear delay systems of retarded and neutral type, Report research no 4127, INRIA (March 2001)

[E12] P.-A. B., Nonconservative LMI criteria for characterization of delay-independent properties of delay systems. Application to stability and input-output analysis of systems with complex parameter, Report research no 4278, INRIA (October 2001)

[E13] P.-A. B., A convex approach to robust stability for linear systems with uncertain scalar parameters, Report research no 4316, INRIA (November 2001)

[E14] P.-A. B., A.B. Piunovskiy, M. Sorine, A controlled linear system with relay output under impulse random disturbances, *Transactions of the French-Russian A.M. Liapunov Institute for Applied Mathematics and Computer Science*, vol. 2, Moscow, Russia (2001), 113–126. Available at http://liapunov.inria.msu.ru/publications/transactions_volume2/5_kolm.html

[E15] P.-A. B., An existence result for polynomial solutions of parameter-dependent LMIs, Report research no 4798, INRIA (April 2003)

[E16] P.-A. B., On Positiveness of Matrix-Valued Polynomials and Robust Semidefinite Programming, Report research no 4906, INRIA (August 2003)

[E17] P.-A. B., Existence of polynomial solutions to robust convex programming problems, Report research no 4910, INRIA (August 2003)

[E18] D. Angeli, P.-A. B., Stability of leaderless multi-agent systems. Extension of a result by Moreau, arXiv: math.OC/0411338 (November 2004)

[E19] P.-A. B., G. Ferrari-Trecate, Average consensus problems in networks of agents with delayed communications, arXiv:math.OC/0503009 (March 2005)

Chapitre 2

Liste des co-auteurs

La date indiquée est celle de la première publication commune, l'institution est la dernière institution de rattachement connue.

- Laurent El Ghaoui, Université de Berkeley, Etats-unis (1991).
- Michel Sorine, INRIA, Rocquencourt, France (1993).
- Alexander M. Krasnosel'skii, IPPI, Moscou, Russie (1995).
- Thomas Bonald, France Telecom R&D (1995).
- Alain Dauron, Direction de la recherche, Renault (1995).
- Alexandre A. Vladimirov, IPPI, Moscou, Russie (1995).
- Dirk von Wissel, Renault (1997).
- Ramine Nikoukhah, INRIA, Rocquencourt, France (1997).
- François Delebecque, INRIA, Rocquencourt, France (1997).
- Kamal Aouchiche (1997).
- Marianne Akian, INRIA, Rocquencourt, France (1998).
- Dimitri I. Rachinskii, IPPI, Moscou, Russie (2000).
- Alexei B. Piunovskii, Université de Liverpool, Royaume-uni (2001).
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