



## Curriculum vitae Europass

Amplasare  
FOTO

Informații personale	
Nume / Prenume	Drăgan Vasile
Adresă(e)	București
E-mail(uri)	<a href="mailto:Vasile.Dragan@imar.ro">Vasile.Dragan@imar.ro</a>
Naționalitate(-tăți)	română
Religie:	ortodoxă
Data nașterii	02.02.1950
Stare civilă	căsătorit
Sex	masculin
Experiența profesională (în ordine invers cronologică)	
<b>Perioada</b>	<b>1990 - prezent</b>
Funcția sau postul ocupat	<b>Cercetător științific</b>
Activități și responsabilități principale	Activitate de cercetare în matematică
Numele și adresa angajatorului	<b>Institutul de Matematică „Simion Stoilow” al Academiei Române</b>
<b>Perioada</b>	<b>1983 - 1990</b>
Funcția sau postul ocupat	CS III
Activități și responsabilități principale	Activitate de cercetare în matematică
Numele și adresa angajatorului	<b>Universitatea din București</b>
<b>Perioada</b>	<b>1974 – 1983</b>
Funcția sau postul ocupat	<b>Matematician</b>
Activități și responsabilități principale	Activitate de cercetare în matematică
Numele și adresa angajatorului	<b>Laboratorul de Teoria Sistemelor, Universitatea București</b>
<b>DOMENII DE INTERES IN CERCETARE</b>	Stabilitatea asimptotică a unor clase de ecuații diferențiale sau cu diferențe în cadrul determinist și în cadrul stohastic
	Ecuații diferențiale sau cu diferențe care generează evoluții pozitive pe spații Banach ordonate
	Control robust pentru sisteme deterministe și stohastice
	Metode numerice pentru calculul comenzilor optimale
	Filtrare de tip H2 și filtrare de tip H infinit
	Probleme de control și de filtrare pentru sisteme cu eșantionare
	Metode ale perturbațiilor singulare aplicate în proiectarea unor comenzi compozite și a unor filtre cu performanțe impuse pentru sisteme cu mai multe scări de timp
	Probleme de jocuri diferențiale linear pătratice
	Perturbații singulare

<b>Educație și formare</b>		<i>(în ordine invers cronologică)</i>			
<b>Perioada</b>	<b>1976 - 1979</b>				
Calificarea / diploma obținută	Studii doctorale / diploma de DOCTOR în Matematică				
Disciplinele principale studiate / competențe profesionale dobândite	Analiza matematică, sisteme de control / teoria sistemelor				
Numele și tipul instituției de învățământ / furnizorului de formare	<b>Facultatea de Matematică - Mecanică, Universitatea din București</b>				
<b>Perioada</b>	<b>1969 - 1973</b>				
Calificarea / diploma obținută	Diploma de Licență în Matematică				
Numele și tipul instituției de învățământ / furnizorului de formare	<b>Facultatea de Matematică - Mecanică, Universitatea din București</b>				
<b>Perioada</b>	<b>1965 - 1969</b>				
Calificarea / diploma obținută	Studii liceale/ diploma de Bacalaureat				
Numele și tipul instituției de învățământ / furnizorului de formare	<b>Liceul „Traian Lalescu” din Mehadia, jud. Caraș - Severin</b>				
<b>Aptitudini și competențe personale</b>					
<b>Limba(i) maternă(e)</b>	Română				
<b>Limba(i) străină(e) cunoscută(e)</b>					
Autoevaluare	<b>Înțelegere</b>		<b>Vorbire</b>	<b>Sciere</b>	
<i>Nivel european (*)</i>	Ascultare	Citire	Participare la conversație	Discurs oral	Exprimare scrisă
<b>Limba engleză</b>	1	2	2	2	2
<b>Limba franceză</b>	2	2	3	3	3
(*) Nivelul Cadrului European Comun de Referință Pentru Limbi Străine					
<b>Competențe și abilități sociale</b>	Bun coleg, colaborator în echipe de cercetare științifică multidisciplinare				
<b>Competențe și aptitudini organizatorice</b>	Organizatorul seminarului de ecuații diferențiale și control optimal “Aristide Halanay” din cadrul Institutului de Matematică „Simion Stoilow” din București				
<b>Competențe și aptitudini de utilizare a calculatorului</b>	Utilizarea calculatorului în redactarea, citirea, documentarea în activitatea curentă de cercetare				
<b>Competențe și aptitudini artistice</b>	Cantat la instrument				
<b>Premii</b>	Premiul “Gheorghe Lazar” al Academiei Romane în 1994.				
<b>Relațional</b>	Foarte bine				
<b>Informații suplimentare</b>	<a href="http://scholar.google.com/citations?user=KIF_QJYAAA&amp;hl=en">http://scholar.google.com/citations?user=KIF_QJYAAA&amp;hl=en</a> <a href="https://www.researchgate.net/profile/Vasile_Dragan">https://www.researchgate.net/profile/Vasile_Dragan</a> <a href="http://www.imar.ro/~vdragan">www.imar.ro/~vdragan</a>				
<b>Anexe</b>	LISTA DE LUCRĂRI ȘTIINȚIFICE MEMBRU ÎN ECHIPA DE CERCETARE în cadrul unor proiecte de cercetare				

## ANEXE

### ANEXA 1

LISTA DE LUCRĂRI ȘTIINȚIFICE - prezentata intr-un tabel anexat.

### ANEXA 2

#### LISTA DE PROIECTE DE CERCETARE

- Analyse qualitative de dynamiques des systèmes interconnectés: approche par la théorie du contrôle automatique (Analiza calitativa a dinamicii sistemelor interconectate abordata prin teoria controlului automat), grant de cercetare internationala; no. PPSRU424242 CNRS Franta-Academia Româna, 2006-2007, parteneri: CNRS Franta (L2S-Paris,IRCCyN-Nantes), Universitatea „Politehnica” Bucuresti, Universitatea din Craiova, Institutul de Matematica al Academiei Române;
- ECO-NET DIE: Dynamique – Interconnexions – Environnement, contract de cercetare internationala; no. 12645SD, Egide, Franta, 2006-2007, parteneri: CNRS Franta (L2S-Paris, IRCCyN-Nantes, LAAS Toulouse), Supelec Franta, Institutul de Matematica al Academiei Române, Centrul de cercetare în Automatica; neliniara al Universitatii din Craiova, Universitatea „Politehnica” Bucuresti, Departamentul de conducerea proceselor al Universitatii „Tomaš Ba&#357;a” din Zlin, Cehia, Departamentul de Automatica al Universitatii din Miskolc, Ungaria;
- CNCSIS 536 : CERCETARI PRIVIND PROIECTAREA SISTEMELOR DIGITALE DE COMANDA AUTOMATA A ZBORULUI (2002-2004)
- Program IDEI, Proiect ID\_1721 “Noi metode de estimare și filtrare optimală pentru sisteme cu parametri aleatori bazate pe tehnici de atenuare a perturbațiilor” (2009-2011).
- Metode diferentiale deterministe si stocastice in studiul unor modele de evolutie Contract de Cercetare in cadrul Programului de Cercetare de Excelenta al ANCS Nr. 2-CEx06-11-18/2006, 2006-2008
- Probleme de optimizarea formelor si control optimal, PN-II-ID-PCE-2011-3-0211 din 2011 ( contractul a fost incheiat in 2012, 145);

## LISTE LUCRĂRI - VASILE DRĂGAN

### 1 Cărți

1) V. Drăgan, A. Halanay, *Perturbații Singulare. Dezvoltări Asimptotice* - Editura Academiei RSR, București, 1983.

2) V. Drăgan, A. Halanay, *Stabilizarea Sistemelor Liniare* - Editura ALL, București 1994.

3) V. Drăgan, A. Halanay, *Stabilization of linear systems* - Birkhauser, Boston, 1999.

4) V. Drăgan, T. Morozan and A.M. Stoica, *Mathematical Methods in Robust Control of Linear Stochastic Systems* - Series: Mathematical Concepts and Methods in Science and Engineering, Series Editor: Angelo Miele, Volume 50, Springer, New York, 2006.

5) V. Drăgan, T. Morozan and A.M. Stoica, *Mathematical Methods in Robust Control of Discrete-time Linear Stochastic Systems* - Springer New York, Dordrecht, Heidelberg, London, 2010.

6) V. Drăgan, T. Morozan and A.M. Stoica, *Mathematical Methods in Robust Control of Linear Stochastic Systems* - Second Edition, Springer New York, 2013.

### 2 Articole publicate in reviste internaționale

1) V. Drăgan, A. Halanay - Suboptimal stabilization of linear systems with several time scales - *Int. J. Control*, (1982), 36, 1, 109-126.

2) V. Drăgan - Observers with several time scales for systems with several time scales - *Int. J. Control*, (1985), 42, 1, 149-153.

3) V. Drăgan, A. Halanay - High-gain feedback stabilization of linear systems - *Int. J. Control*, (1987), 45, 2, 549-577.

4) V. Drăgan, A. Halanay - Behavior of high-gain feedback control under white-noise perturbations - *Int.J. Control*, (1987), 45, 4, 1427-1429.

5) V. Drăgan, A. Halanay, T. Morozan - Performance estimates in tracking under white-noise perturbations - *Int. J. Control*, (1989), 50, 6, 2269-2283.

6) V. Drăgan, A. Halanay - Zerourile invariante ale sistemelor cu miscari lente si miscari rapide si stabilizarea adaptiva- (in limba rusa) *Avtomatika i Telemekhanica*, (1990), 81-91.

7) V. Drăgan, A. Halanay - Evaluari uniforme la discretizarea unei comenzi, cu aplicare la stabilizarea adaptiva- (in limba rusa) *Sibirski Mat. J.* 31, 6, nov.-dec., (1990), 199-205.

8) V. Drăgan - Global Solutions for matrix Riccati Differential Equations via Input-output Operators - *WSSIAA 1*, (1992), 135-148.

9) V. Drăgan - Optimal stabilizing compensator for linear systems under white-noise perturbations - *Stochastic Analysis and Appl.*, (1992), 10, 5, 545-557.

10) V. Drăgan, A. Halanay, T. Morozan - Optimal stabilizing compensator for linear systems with state-dependent noise - *Stochastic Analysis and Appl.*, (1992), 10, 5, 557-573.

11) V. Drăgan - Asymptotic expansions for game-theoretic Riccati equations and stabilization with disturbance attenuation for singularly perturbed systems - *Systems and Control Letters*, (1993), 20, 455-463.

12) V. Drăgan - A "small-gain" theorem for time-varying systems - *Appl. Math. Lett.*, (1993), 6, 5, 75-77.

13) V. Drăgan, A. Halanay, V. Ionescu - Infinite horizon disturbance attenuation for discrete time systems. A Popov-Yakubovich approach. - *Integr. Equat. Oper. Th.*, (1994), 19, 153-215.

14) V. Drăgan, A. Halanay, A. Stoica - Remarks on order reduction for a robustly suboptimal controller via singular perturbations - *Systems and Con-*

*trol Letters*, (1995), 24, 317-320.

15) V. Drăgan, B. Iacob, T. Pritchard - Infinite dimensional time-varying systems with nonlinear output feedback - *Integr. Equat. Oper. Th.*, (1995), 22, 440-462.

16) V. Drăgan, A. Halanay, T. Morozan - Mixed input-output optimization with state feedback under white noise perturbations - *Dynamics of Continuous, Discrete and Impulsive Systems*, (1996), 2, 2, 219-237.

17) V. Drăgan -  $H_\infty$  norms and disturbance attenuation for systems with fast transients - *IEEE Trans. Auto. Control*, (1996), 41, 5, 747-751.

18) V. Drăgan - Well conditioned computation for  $H_\infty$  controller near the optimum - *Numerical Algorithms*, (1997), 15, 193-206.

19) V. Drăgan - Robust stabilization of time varying infinite dimensional systems - *IMA J. Control and Information*, (1997), 14, 137-151.

20) V. Drăgan, T. Morozan - Mixed input-output optimization for time varying Itô systems with state dependent noise - *Dynamics of Continuous, Discrete and Impulsive Systems*, (1997), 3, 317-333.

21) V. Drăgan, T. Morozan - Global solutions to a game theoretic Riccati equation of stochastic control - *Journal of Diff. Equations*, (1997), 138, 2, 328-350.

22) V. Drăgan, A. Halanay, A. Stoica - A small gain theorem for linear stochastic systems - *Systems and Control Letters*, (1997), 30, 243- 251.

23) V. Drăgan, A. Halanay, A. Stoica - An alternative computational solution for optimal two block Nehari and  $H_\infty$  problems - *IMA J. Control*, (1998), 15, 285-301.

24) V. Drăgan, V. Ionescu - A robust controller for time-dependent discrete systems - *IMA Journal of Math. Contr. and Inform.*, (1998), 15, 1-23.

25) V. Drăgan - The asymptotic behavior of the stability radius for a singularly perturbed linear system - *Int. J. Robust Nonlinear Control*, (1998), 8,

817-829.

26) V. Drăgan, Peng Shi - Asymptotic  $H_\infty$  control for singularly perturbed systems with parametric uncertainties - *IEEE Trans. Aut. Control*, (1999), 44, 9, 1738-1742.

27) V. Drăgan, A. Stoica, A. Halanay - The  $\gamma$ -attenuation problem for systems with state dependent noise- *Stochastic Analysis and Applications*, (1999), 17, 3, 395-404.

28) V. Drăgan, Peng Shi- El-Kebir Boukas - Control of singularly perturbed systems with Markovian jump parameters: an  $H_\infty$  approach- *Automatica*, (1999), 35, 1369-1378.

29) V. Drăgan, A. Ionita - Exponential Stability for Singularly Perturbed Systems with State Delays- *Electronical Journal on Qualitative Theory of Differential Equations*, 6, 1-8, 2000.

30) V. Drăgan, T. Morozan - Exponential Stability for a Class of Singularly Perturbed Ito Differential Equations - *Electronical Journal on Qualitative Theory of Differential Equations*, 7, 1-13, 2000.

31) V. Drăgan, T. Morozan - Game theoretic coupled Riccati equations associated to controlled linear differential systems with jump Markov perturbations- *Stochastic Analysis and Appl.*, (2001), 19 (5), 715-751.

32) V. Drăgan, T. Morozan - Stability and robust stabilization to linear stochastic systems described by differential equations with Markovian jumping and multiplicative white noise- *Stochastic Analysis and Appl.*, (2002), 20 (1), 33-92.

33) V. Drăgan, A. Stoica - Robust stabilization of two-time scale systems with respect to the normalized coprime factorization - *Int. J. Control*, (2002), 75, 1, 1-10.

34) V. Drăgan, T. Morozan, P. Shi - Asymptotic properties of input-output operators norm associated with singularly perturbed systems with multiplicative white noise- *SIAM J. Control Optim.*, (2002), 41, 1, 141-163.

35) V. Drăgan, T. Morozan - Exponential stability for a class of linear time varying singularly perturbed stochastic systems - *Dynamics of Continuous, Discrete and Impulsive Systems, Series B : Applications and Algorithms*, (2002), 9, 213-231.

36) V. Drăgan, T. Morozan - Systems of matrix rational differential equations arising in connection with linear stochastic systems with Markovian jumping, *Journal of differential equations*, (2003), 194, 1, 1-38.

37) V. Drăgan, G. Freiling, A. Hochhaus, T. Morozan - A class of nonlinear differential equations on the space of symmetric matrices, *Electron. J. Diff. Equ.*, (2004), 2004, 96, 1-48.

38) V. Drăgan, T. Morozan, A. Stoica -  $H_2$  optimal control for linear stochastic systems, *Automatica*, (2004), 40, 7, 1103- 1113.

39) V. Drăgan, T. Morozan - The Linear Quadratic Optimization Problems for a Class of Linear Stochastic Systems With Multiplicative White Noise and Markovian Jumping, *IEEE Trans. Aut. Control*, (2004), 49, 5, 665-675.

40) V. Drăgan, T. Morozan - Stochastic observability and applications, *IMA Journal of Mathematical Control and Information* (2004), 21, 323-344.

41) V. Drăgan - The linear quadratic optimization problem for a class of singularly perturbed stochastic systems - *Int. J. of Innovative Computing, Information and Control*, (2005), 1, 1, 53-64.

42) V. Drăgan, T. Morozan - Stochastic  $H_2$  Optimal Control for a Class of Linear Systems with Periodic Coefficients - *European Journal of Control*, (2005), 6, 11, 619-631.

43) V. Drăgan, T. Damm, G. Freiling and T. Morozan - Differential equations with positive evolutions and some applications, *Result. Math.*, (2005), 48, 206-236.

44) V. Drăgan, T. Morozan - Exponential stability for discrete time linear equations defined by positive operators - *Integr. Equations and Op. Theory*, (2006), 54, 465–493, (IF=0,699).



45) V. Drăgan and T. Morozan - Observability and detectability of a class of discrete-time stochastic linear systems, *IMA Journal of Mathematical Control and Information*, (2006), 23, 371-394.

46) V. Drăgan and T. Morozan - Mean Square Exponential Stability for some Stochastic Linear Discrete Time Systems, *European Journal of Control*, (2006), 12, 4, 373–396.

47) V. Drăgan and T. Morozan - Exponential stability in mean square for a general class of discrete-time linear stochastic systems, *Stochastic Analysis and Applications*, (2008), 26, 3, 495-525, (IF=0,528).

48) V. Drăgan and T. Morozan - The linear quadratic optimization problem for a class of discrete time stochastic linear systems, *International Journal of Innovative Computing, Information and Control*, (2008), 4, 9, 2127–2137, (IF=2,791).

49) V. Drăgan and T. Morozan - Discrete-time Riccati type equations and the tracking problem, *ICIC Express Letters*, (2008), 2, 2, 109–116.

50) V. Drăgan and T. Morozan -  $H_2$  optimal control for a wide class of discrete-time linear stochastic systems, *International Journal of Systems Science*, (2009), 40, 10, 1029–1049, (IF= 0,918).

51) V. Drăgan, T. Morozan- Criteria for exponential stability of linear differential equations with positive evolution on ordered Banach spaces, *IMA JOURNAL OF MATHEMATICAL CONTROL AND INFORMATION*, (2010), 27, 3, 267–307, (IF=0,213).

52) V. Drăgan, T. Morozan - A class of discrete time generalized Riccati equations, *JOURNAL OF DIFFERENCE EQUATIONS AND APPLICATIONS*, (2010), 16, 4, 291–320, (IF=0,951).

53) V. Drăgan, T. Morozan, A.M. Stoica - Iterative algorithm to compute the maximal and stabilising solutions of a general class of discrete-time Riccati-type equations, *INTERNATIONAL JOURNAL OF CONTROL*, (2010), 83, 4, 837–847, (IF=0,848).

54) H. Mukaidani, H. Xu, V. Drăgan - Stochastic optimal control for weakly

coupled large-scale systems via state and static output feedback, *IET Control Theory and Applications*, vol. 4,9, (2011), 1849–1858, (IF=0,99).

55) M. Sagara, H. Mukaidani, V. Drăgan - Near-Optimal Control for Multiparameter Singularly Perturbed Stochastic Systems, *Optimal Control, Applications and Methods*, (2011), 32, 113–125, (IF= 0,648).

56) V. Drăgan - Stabilizing composite control for a class of linear systems modeled by singularly perturbed Ito differential equations, *Automatica*, (2011), 46, 1, 122–126, (IF=2,829 ).

57) V. Drăgan, I. Ivanov - A numerical procedure to compute the stabilizing solution of game theoretic Riccati equations of stochastic control, *International Journal of Control*, (2011), 84, 4, 783–800, (IF=0,977 ).

58) V. Drăgan, I. Ivanov - Computation of the stabilizing solution of game theoretic Riccati equation arising in stochastic  $H_\infty$  control problems, *Numerical Algorithms*, (2011), 57, 3, 357–375, (IF=1,042).

59) V. Drăgan, H. Mukaidani, P. Shi - The linear quadratic regulator problem for a class of controlled systems modeled by singularly perturbed ITO differential equations, *SIAM J. Control Optimization*, 50, 1, (2012), 448-470, (IF= 2,718).

60) V. Drăgan, H. Mukaidani, P. Shi, Near optimal linear quadratic regulator for a class of stochastic systems modeled by singularly perturbed Ito differential equations with state and control multiplicative white noise, *ICIC Express Letters*, 6, 3, (2012), pp. 595–602.

61) I. Ivanov, V. Drăgan - Decoupled Stein iterations to the discrete-time generalized Riccati equations, *IET Control Theory and Applications*, vol. 6, 10, (2012), 1400–1409, (IF=1,717).

62) V. Drăgan, A. M. Stoica - Optimal  $H_2$  Filtering for a Class of Linear Stochastic Systems with Sampling - *Automatica*, 48, (2012), 2494-2501, (IF=2,919).

63) V. M. Ungureanu, V. Drăgan, T. Morozan - Global solutions of a class of discrete-time backward nonlinear equations on ordered Banach spaces with

applications to Riccati equations of stochastic control - *Optimal Control, Applications and Methods*, (2013), 34, 2, 164–190, (IF=1,535 ).

64) V. Ungureanu, V. Drăgan - Stability of discrete-time positive evolution operators on ordered Banach spaces and applications - *Journal of Difference Equations and Applications*, (2013), 19, 6, 952–980, (IF=0,861).

65) V. M. Ungureanu, V. Drăgan - Nonlinear differential equations of Riccati type on ordered Banach spaces - *Electronic Journal of Qualitative Theory of Differential Equations, Proc. 9th Coll. QTDE*, (2012), No. 17, 1–22.

66) S. Aberkane, V. Drăgan -  $H_\infty$  filtering of periodic Markovian jump systems: Application to filtering with communication constraints - *Automatica*, (2012), 48, 12, 3151– 3156, (IF=2,919).

67) V. Drăgan - Optimal Filtering for Discrete-Time Linear Systems With Multiplicative White Noise Perturbations and Periodic Coefficients - *IEEE Transactions on Automatic Control* , 58, (2013), 1029 –1034, (IF=3,167).

68) V. Drăgan - Robust stabilization of discrete-time time-varying linear systems with Markovian switching and nonlinear parametric uncertainties - *International Journal of Systems Science*, (2014), 45:7, 1508–1517, (IF =2,1).

69) V. Drăgan, S. Aberkane -  $H_2$  optimal filtering for continuous-time periodic linear stochastic systems with state-dependent noise - *Systems and Control Letters*, (2014), 66, 35-42, (IF= 2,059).

70) T. Morozan, V. Drăgan - An  $H_2$ -Type Norm of a Discrete - Time Linear Stochastic System with Periodic Coefficients Simultaneously Affected by an Infinite Markov Chain and Multiplicative White Noise Perturbations - *Stochastic Analysis and Applications*, (2014), 32,5, 776-801, (IF=0,445).

71) Shaikshavali Chitraganti, Samir Aberkane, Christophe Aubrun, Guillermo Valencia-Palomo, Vasile Dragan - On control of discrete-time state-dependent jump linear systems with probabilistic constraints: A receding horizon approach - *Systems and Control Letters*, (2014), 74, 81-89, (IF= 2,059).

72) V. Drăgan - Stabilizing solution of periodic game theoretic Riccati differential equation of stochastic control - *IMA Journal on Mathematical Control*

and *Information*, (2015) 32 (4): 839-865. (IF=1,156).

73) V. Drăgan, S. Aberkane, I. G. Ivanov - On computing the stabilizing solution of a class of discrete-time periodic Riccati equations - *Int. J. Robust Nonlinear Control*, (2015), 25, 7, 1066–1093, (IF= 3,176), ((2013), published online DOI: 10.1002/rnc.3131).

74) V. Drăgan, T. Morozan, Adrian Mihail Stoica - Output-based  $H_2$  optimal controllers for a class of discrete-time stochastic linear systems with periodic coefficients - *Int. J. Robust Nonlinear Control*, (2015), 25, 13, 1897–1926, (IF=3,176), ( doi: 10.1002/rnc.3173).

75) S. Aberkane, V. Dragan - Robust stability and robust stabilization of a class of discrete-time time-varying linear stochastic systems - *SIAM J. CONTROL OPTIM.*, (2015), Vol. 53, No. 1, pp. 30-57, (IF= 1,463).

76) H. Mukaidani, H. Xu, V. Dragan - Decentralized  $H_2$  Control for Multi-Channel Stochastic Systems - *IEEE Trans. on Automatic Control*, (2015), 60, 4, 1080–1096, (IF=2,779).

77) Vasile Dragan, SamirAberkane, Ioan-LucianPopa - Optimal  $H_2$  filtering for periodic linear stochastic systems with multiplicative white noise perturbations and sampled measurements - *Journal of the Franklin Institute*, (2015), 352, 5985-6010, (IF= 2,237).

78) Vasile Dragan, Hiroaki Mukaidani - Exponential stability in mean square of a singularly perturbed linear stochastic system with state-multiplicative white-noise perturbations and Markovian switching - *IET Control Theory Appl.*, 2016, Vol. 10, (9), pp. 1040-1051, (IF= 1,957).

79) Vasile Dragan, Eduardo F. Costa - Optimal stationary dynamic output-feedback controllers for discrete-time linear systems with Markovian jumping parameters and additive white noise perturbations- *IEEE Trans. on Automatic Control*, (2016), vol. 61, (12), pp. 3912-3924, DOI 10.1109/TAC.2016.2529505, (IF=4,27).

80) Vasile Dragan, Hiroaki Mukaidani - Optimal control for a singularly perturbed linear stochastic system with multiplicative white noise perturbations and Markovian jumping - *Optimal Control Applications and Meth-*

*ods*, (2017), vol.38, (2), pp.205- 228, First published: 15 March 2016, DOI: 10.1002/oca.2251, (IF=1,558).

81) Vasile Dragan, Samir Aberkane - Computing the stabilizing solution of a large class of stochastic game theoretic Riccati differential equations: a deterministic approximation - *SIAM Journal on Control and Optimization*, (2017), vol. 55, (2), pp.650- 670 (IF=1,45).

82) Hiroaki Mukaidani, Hua Xu, Tadashi Shima, Vasile Dragan - A Stochastic Multiple-LeaderFollower Incentive Stackelberg Strategy for Markov Jump Linear Systems - *IEEE CONTROL SYSTEMS LETTERS*, (2017), Vol. 1, (2), pp.250-255.

83) Vasile Dragan, Ivan G. Ivanov - Sufficient conditions for Nash equilibrium point in the linear quadratic game for Markov jump positive systems - *IET Control Theory and Applic.*, (2017), vol.11, (15), pp.2658–2667. (IF=2,536).

84) Adrian Mihail Stoica, Vasile Dragan - A Time-Periodic Control Law for Satellite Magnetic Stabilization -*International Journal of Modelling and Optimization*, (2017), Vol. 7,(3), pp. 168–172.

85) Vasile Dragan, Samir Aberkane, Ioan Lucian Popa - Optimal filtering for a class of linear Itô stochastic systems: The dichotomic case, *Automatica*, (2018), vol. 90(1), pp. 47–53.

86) H. Mukaidani, H. Xu, V. Dragan - Static Output-Feedback Incentive Stackelberg Game for Discrete-Time Markov Jump Linear Stochastic Systems with External Disturbance, *IEEE Control Systems Letters*, (2018), vol.2(4), pp.701–706.

87) V. Dragan, S. Aberkane, An addendum to the problem of numerical computation of the stabilizing solution of periodic game theoretic Riccati differential equation of stochastic control, *IMA Journal of Mathematical Control and Information*, (2019), 36 (2), 569– 582.

88) V, Dragan, On the linear quadratic optimal control for systems described by singularly perturbed Ito differential equations with two fast time scales, *Axioms*, (2019), 8(1), 30, doi: 10.3309/axioms8010030.

89) V.Dragan, I.G.Ivanov, I.L. Popa, Stochastic linear quadratic differential games in a state feedback setting with sampled measurements, *Systems and Control Letters*, 134, (2019), Art. Nr.: UNSP 104563, doi.org/10.1016/j.sysconle.2019.104563.

90) S. Aberkane, V. Dragan, On the existence of the stabilizing solution of a class of periodic stochastic Riccati equations, *IEEE Trans. on Aut. Control*, Volume: 65 Issue: 3 Pages: 1288-1294, DOI: 10.1109/TAC.2019.2927589 Published: MAR 2020.

91) V. Dragan, I.G. Ivanov, On the stochastic linear quadratic control problem with piecewise constant admissible controls, *JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS* Volume: 357, Issue: 3 Pages: 1532-1559, DOI: 10.1016/j.jfranklin.2019.10.036 Published: FEB 2020.

92) V. Dragan, S. Aberkane, Exact detectability and exact observability of discrete-time linear stochastic systems with periodic coefficients, *AUTOMATICA*, Volume: 112, Article Number: 108660, DOI: 10.1016/j.automatica.2019.108660 Published: FEB 2020.

93) V. Dragan, S. Aberkane, T. Morozan, On the bounded and stabilizing solution of a generalized Riccati differential equation arising in connection with a zero-sum linear quadratic stochastic differential game, *OPTIMAL CONTROL APPLICATIONS and METHODS*, Volume: 41, Issue: 2, Pages: 640-667, DOI: 10.1002/oca.2563, Published: MAR 2020.

94) V. Dragan, I.G. Ivanov, I.L. Popa, On the closed-loop Nash equilibrium strategy for a class of sampled data stochastic linear quadratic differential games, *CHAOS SOLITONS and FRACTALS*, Volume: 137, Article Number: UNSP 109877, DOI: 10.1016/j.chaos.2020.109877 Published: AUG 2020.

95) S. Aberkane, V. Dragan, On the existence of the stabilizing solution of generalized Riccati equations arising in zero-sum stochastic difference games: the time-varying case, *JOURNAL OF DIFFERENCE EQUATIONS AND APPLICATIONS*, Volume: 26, Issue: 7, Pages: 913-951, DOI: 10.1080/10236198.2020.1801661, Published: JUL 2, 2020.

96) V.Dragan, S. Aberkane, Robust Stability of Time-Varying Markov

Jump Linear Systems with Respect to a Class of Structured, Stochastic, Non-linear Parametric Uncertainties, *Axioma 10(3)*, (2021), 148.

97) V.Dragan, E.F.Costa, I.L.Popa, S.Aberkane, Exact detectability: Application to generalized Lyapunov and Riccati equations, *System and Control Letters, 157*,(2021), 105032.

98) V. Dragan, I.G.Ivanov, I.L.Popa, O.Bagdasar, Closed-loop Nash Equilibrium in the Class of Piecewise Constant Strategies in a Linear State Feedback Form for Stochastic LQ Games, *Mathematics, 9, 2713* , (2021), doi.org/10.3390/math9212713 ( the first article in the Special Issue Dynamical Systems in Engineering).

### 3 Articole publicate in reviste din țară

1) V. Dragan, A. Halanay - Suboptimal linear controller by singular perturbations techniques - *Rev. Roum. Sci. Techn. Electrotechn. et Energ.*, (1976), 21, 4, 585-591.

2) S. Bolintineanu, V. Dragan - Open-loop iterative solution of the linear quadratic optimization problem - *Rev. Roum. Sci. Techn. Electrotechn. et Energ.*, (1977), 22, 4, 535-540.

3) V. Dragan, A. Halanay - Optimal stabilization of systems with small time constants - *Rev. Roum. Sci. Techn. Electrotechn. et Energ.*, (1977), 22, 1, 99-104.

4) V. Dragan - Hybrid control of nonstationary systems - *Rev. Roum. Sci. Techn. Electrotechn. et Energ.*, (1979), 24, 2, 297-301.

5) V. Dragan, A. Halanay - A singularly perturbed matrix Riccati equation - *Rev. Roum. Math. Pure et Appli.*, (1980), XXV, 10, 1477-1484.

6) V. Dragan - Hybrid control of singularly perturbed stationary systems - *Rev. Roum. Sci. Techn. Electrotechn. et Energ.*, (1980), 25, 4, 617-624.

7) V. Dragan - Hybrid control for systems with small time constants - *Rev.*

*Sci. Techn. Electrotechn. et Energ.*, (1980), 25, 2, 289-303.

8) V. Dragan, A. Halanay - A new case in the hibrid control of nonstationary systems with fast transients- *Rev. Roum. Sci. Techn. Electrotechn. et Energ.*, (1981), 26, 3, 447-453.

9) V. Dragan - Suboptimal results in the hibrid control of singularly perturbed stationary systems - *Rev. Roum. Sci. Techn. Electrotechn. et Energ.*, (1981), 26, 4, 587-593.

10) V. Dragan, A. Halanay - Cheap control and singularly perturbed matrix Riccati differentials equations - *Rev. Roum. Math. Pures et Appl.*, (1981), XXVI, 1, 21-40.

11) V. Dragan, A. Halanay - Stability problems for sincronous machines by singular perturbation method - *Rev. Roum. Sci. Techn. Electrotechn. et Energ.*, (1982), 27, 2, 199-209.

12) V. Dragan - Exponential stability for a class of singularly perturbed systems - *Rev. Roum. Math. Pures et Appl.*, (1984), XXIX, 10, 851-854.

13) V. Dragan, A. Halanay, M. Popescu - An intermediary domain between fast and slow motions in hydraulic surge systems - *Rev. Roum. Sci. Techn. Mecanique Applique*, (1985), 39, 1.

14) V. Dragan, A. Halanay - Asymptotic expansions for coupled systems of difference-differential and difference equations. A critical case. - *Rev. Roum. Math. Pures et Appl.*, (1987), 2, 131-136.

15) V. Dragan - Cheap control with several scales - *Rev. Roum. Math. Pures et Appl.*, XXXIII, (1988), 8, 663-677.

16) V. Dragan - Model reduction for exponential stability of systems of nonlinear differential equations coupled with nonlinear difference equations with small time size - *Rev. Roum. Sci. Techn. Electrotechn. et Energ.*, (1988), 33, 1, 85-90.

17) V. Dragan - Discrete implementation of stabilizing linear controls - *Rev. Roum. Sci. Techn. -Electrotechn. et Energ.*, (1990), 35, 3, 389-396.



- 18) V. Dragan - Discrete implementation of a stabilizing compensator - *Rev. Roum. Sci. Techn. - Electrotechn. et Energ.*, (1990), 35, 4, 533-538.
- 19) V. Dragan - Discrete implementation of a stabilizing linear control for a system with two time scales - *Rev. Roum. Sci. Techn. - Electrotechn. et Energ.*, (1991), 36, 1, 121-129.
- 20) V. Dragan - Discrete implementation of a high-gain stabilizing control - *Rev. Roum. Sci. Techn. - Electrotechn. et Energ.*, (1991), 36, 2, 241-245.
- 21) V. Dragan, A. Halanay - Asymptotic expansions for singular values associated to singularly perturbed control systems - *Rev. Roum. Math. Pures et Appl.*, (1992), 37, 5, 371-385.
- 22) V. Dragan, A. Halanay - Uniform controllability for systems with two time-scales - *Rev. Roum. Math. Pures et Appl.*, (1992), 37, 8, 673-681.
- 23) V. Dragan - Asymptotic expansions for algebraic Riccati equations of  $H_\infty$  control theory for systems with two time scales - *Studies in Informatics and Control*, (1992), 1, 3, 227-237.
- 24) V. Dragan, F.D.Barb, M. Weiss - On the hybrid controller reduction problem - *Studies in Informatics and Control*, (1992), 1, 2, 141-151.
- 25) V. Dragan, A. Halanay - Asymptotic expansions of the bounded solutions of Riccati equations associated with systems with two time scales - *Rev. Roum. Math. Pures et Appl.*, (1993), 38, 1, 27-34.
- 26) V. Dragan, A. Halanay - General controlled evolutions disturbance attenuation and related topics - *Studii si Cercetari Mat.*, (1994), 46, 2, 149-280.
- 27) V. Dragan - Global stabilizing solutions to game theoretic Riccati equations and disturbance attenuation problem - *Rev. Roum. Math. Pures et Appl.*, (1994), 39, 4, 303-328.
- 28) V. Dragan - On robustness with respect to multiplicative perturbations - *Rev. Roum. Sci. Techn. Electrotechn. et Energ.*, (1996), 41, 3, 363-377.

- 29) V. Dragan, A. Halanay, A. Stoica - An LMI solution to a disturbance attenuation problem with state feedback for stochastic systems - *Rev. Roum. Sci. Techn. Electrotechn. et Energ.*, (1996), 41, 4, 513-519.
- 30) V. Dragan, A. Stoica - A robust stabilization problem for discrete time time-varying stochastic systems with multiplicative noise- *Math. Reports*, (2000), 2(52), 3, 275-293.
- 31) V. Dragan, A. Stoica - Some singular perturbation techniques in robust control- *Roum. Sci. Techn- Electrotechn. et Energ.*,(2000), 45, 3, 337-348.
- 32) V. Dragan, T. Morozan, A. Stoica - Stability radii for a class of differential stochastic systems, *Mathematical Reports*, (2003) vol. 5(55), 4, 301-314.
- 33) V. Dragan, T. Morozan, A. Stoica - Optimal  $H_2$  state feedback control for linear systems with Markovian jumps, *Revue Roumaine des Sciences Techn., Serie Electrotechn. et Energ.*, (2003), 4, 523-527.
- 34) V. Dragan, T. Morozan, A. Stoica - Stochastic Version of bounded Real Lemma and Applications, *Mathematical Reports*, (2004), 6 (56), 4, 389-430.
- 35) V. Dragan, T. Damn, G. Freiling - Lyapunov Iterations For Coupled Riccati Differential Equations Arising In Connection With Nash Differential Games, *Mathematical Reports*, (2007), 9, 59, 1, 35-46.
- 36) V. Dragan, T. Morozan, - Discrete-time linear equations defined by positive operators on ordered Hilbert spaces, *Rev. Roumaine Math. Pures et Appl.*,(2008), 53, 2-3, 131-166.
- 37) H. Mukaidani, V. Dragan - Control of Deterministic and Stochastic Systems with Several Small Parameters—A Survey, *Annals of the Academy of the Romanian Scientists , Serie on Mathematics and its Applications*, (2009), 1, 1, 112-158.
- 38) V. Dragan, T. Morozan - Linear quadratic optimization problems for some discrete-time stochastic linear systems, *Mathematical Reports*, (2009), 11 (61), 4, 307319.

39) V. Dragan, T. Morozan - Robust stability and robust stabilization of discrete-time linear stochastic systems, *Annals of the Academy of Romanian Scientists, Series on Mathematics and its Applications*, (2010), 2, 2, 141- 170.

40) V. Dragan, T. Morozan, A. Stoica -  $H_2$  optimal controllers for a large class of linear stochastic systems with periodic coefficients, *Annals of the Academy of Romanian Scientists, Series on Mathematics and its Applications*, (2011), 3, 1, 87-105.

41) V. Dragan, T. Morozan, A. Stoica -  $H_2$  optimal filtering for discrete-time linear stochastic systems with periodic coefficients and Markovian jumping, *Ann. Acad. Rom. Sci. Ser. Math. Appl.*, 5, (2013), 46 –64.

42) V. Dragan, T. Morozan, V. Ungureanu - Some Lyapunov type positive operators on ordered Banach spaces, *Ann. Acad. Rom. Sci. Ser. Math. Appl.*, 5, (2013), 65 – 107.

43) V. Dragan, I.G. Ivanov, Several iterative procedures to compute the stabilizing solution of a discrete-time Riccati equation with periodic coefficients arising in connection with a stochastic linear quadratic control problem, *Ann. Acad. Rom. Sci. Ser. Math. Appl.* Vol. 7, No. 1, (2015), 98–120.

44) V. Dragan, I.G. Ivanov, The existence of the stabilizing solution of the Riccati equation arising in discrete-time stochastic zero sum LQ dynamic games with periodic coefficients, *Ann. Acad. Rom. Sci. Ser. Math. Appl.*, vol.9, no.1, (2017), 44-61.

45) V. Dragan, Near optimal linear quadratic regulator for controlled systems described by Ito differential equations with two fast time scales, *Ann. Acad. Rom. Sci. Ser. Math. Appl.*, vol.9, no.1, (2017), 89-109.

46) V.Dragan, I.L. Popa, H. Mukaidani, T. Morozan, Exponential stability in mean square of a large class of singularly perturbed stochastic linear differential equations, *Ann. Acad. Rom. Sci. Ser. Math. Appl.*, vol.10, no.1, (2018), 140-164.

47) V. Dragan, I.G.Ivanov, On the mean square minimization of the final value of an output of a linear stochastic controlled system, *Ann. Acad. Rom. Sci. Ser. Math. Appl.*, vol.10, no.2, (2018), 211 –227.

48) S. Aberkane, V. Dragan, I.L.Popa, Optimal filtering of a signal generated by a system modeled by Ito differential equations with periodic coefficients: the dichotomic case, *Bull. Math. Soc. Sci. Math. Roumanie*, Tome 61 (109), No. 4, 2018, 347- 359.

49) V. Dragan, I. L. Popa, S. Aberkane, On the asymptotic structure of the stabilizing solution of a class of singularly perturbed Riccati equations of stochastic control, *ROMAI J.*, v.14, no.2(2018), 67- 87.

50) V.Dragan, I.L. Popa, A spectral criterion for the existence of the stabilizing solution of a class of Riccati type differential equations with periodic coefficients, *Stud. Univ. Babeş-Bolyai Math.*, 66(1), (2021), pag. 159 – 177.

51) V.Dragan, I.G.Ivanov, The minimization of the mean square of the deviation of a random signal from a given target, *Ann. Acad. Rom. Sci. Ser. Math. Appl.*, 13(1-2), (2021), pag. 181 – 201.

## 4 Capitoale publicate in volume

1) V. Dragan - Asymptotic expansions for singularly perturbed differential matrix Riccati equations with applications to linear quadratic optimization problem - *F. Verhulst, (ed) Asymptotic Analysis II, Lecture Notes in Math. 895*, Springer Verlag, (1983), 370-379.

2) V. Dragan, A. Halanay - Uniform asymptotic expansions for the fundamental matrix singularly perturbed linear systems and applications - *F. Verhulst (ed.) Asymptotic Analysis II, Lecture Notes in Math.*, Springer-Verlag, (1983), 215-347.

3) V. Dragan, A. Halanay - Asymptotic expansions for coupled difference and differential-difference equations with small delays- volum omagial pentru I.A.Mitropolskii, 1988.

4) V.Dragan - Suboptimal two-block Nehari problems for time varying infinite dimensional systems, (Editor C. Corduneanu), *Qualitative problems for differential equations and control theory*, World scientific, Singapore , New Jer-

sey, London, Hong Kong, (1995), 157–168.

5) V. Dragan, A. Stoica, T. Morozan - Iterative procedure for stabilizing solutions of differential Riccati type equations arising in stochastic control, (V. Barbu et all. Ed), *Analysis and optimization of differential systems*, Kluwer Academic Publishers, Boston, Dordrecht, London, (2003), 133–144.

6) V. Dragan - Robust stabilization for a class of singularly perturbed stochastic linear systems, ( Edited by J. Misra), *Industrial Mathematics and Statistics*, Narosa Publishing House, (2003), 389–418.

7) V. Dragan, T. Morozan, A. Stoica - The disturbance attenuation problem for a general class of linear stochastic systems, (Edited by M. Voicu), *Advances in Automatic Control*, X. Kluwer Academic Publishers, (2004), 39–54.

8) V. Dragan, P. Shi, The algebraic Riccati equations arising in connection with LQ problems for singularly perturbed linear stochastic systems, Chapter 24 in *Advances in Dynamics and Control: Theory Methods and Applications*, S. Sivasundaram, J. Vasundhara Devi, F. Udwadia, and I. Lasiecka, eds., Cambridge Scientific, UK, (2009), 287-303.

9) H. Mukaidani, V. Dragan - Numerical Computation for solving cross-coupled large-scale singularly perturbed stochastic algebraic Riccati equation-*Handbook of Optimization Theory*, Nova Science Publishers Inc., Chapter 16, (2011), 407–424.

10) Hiroaki Mukaidani, Hua Xu, Vasile Dragan - Dynamic Games for Markov Jump Stochastic Delay Systems, Chapter 11 in *Recent Results on Time-delay Systems*, Springer International Publishing Switzerland, Editors: Emmanuel Witrant, Emilia Fridman, Olivier Sename, Luc Dugard, (2016), *Advances in Delays and Dynamics*, Volume 5, (2016), 207–227, ISBN: 978-3-319-26367-0.

11) Vasile Dragan, Toader Morozan - On the bounded and stabilizing solution of the generalized Riccati differential equations with periodic coefficients arising in connection with a zero sum linear quadratic stochastic differential game - *New Trends in Differential Equations, Control Theory and Optimization*, editori: V. Barbu, C.G. Lefter, I.I. Vrăbie, editura: World Scientific,

(2016), 81–93, ISBN: 978 9813142855.

12) Vasile Dragan, Adrian Mihail Stoica, Toader Moroza - A Criterion for Robust Stability with Respect to Parametric Uncertainties Modeled by Multiplicative White Noise with Unknown Intensity, with Applications to Stability of Neural Networks - *System Modeling and Optimization*, editors: Lorena Bociu, Jean-Antoine Desideri, Abderrahmane Habbal, editura: Springer Nature, (2017), 252–262 ISBN 978-3-319-5579.