List of publications

The following list includes the publications within COPERNICUS Project CP 93:2424, *Algorithms for CAE Based on Modern Polynomial Methods in Control.*

1. D. Henrion, M. Šebek (1996). An efficient numerical method for the discrete time symmetric matrix polynomial equation. LAAS Report 96433, Laboratoir d'Analyse et d'Architecture des Systemes, Centre National de la Recherche Scientifique, Toulouse, France, Nov.

2. D. Henrion, M. Šebek (1997). An efficient numerical method for the discrete time symmetric matrix polynomial equation. In: *Proc. 4th European Control Conference ECC97*, vol. 3, Brussels, Belgium, July 1–4.

3. D. Henrion, M. Šebek (1996). Symmetric matrix polynomial equation: Interpolation results. To appear in *Automatica.*

4. D. Henrion, M. Šebek (1997). Symmetric matrix polynomial equation: Interpolation results. LAAS Report 96433, Laboratoir d'Analyse et d'Architecture des Systemes, Centre National de la Recherche Scientifique, Toulouse, France, Feb.

5. D. Henrion, M. Šebek (1997). Interpolation approach to polynomial matrix triangularization. Submitted to *36th IEEE Conference on Decision and Control.*

6. D. Henrion, M. Šebek (1997). Interpolation approach to polynomial matrix triangularization. Submitted to *IEEE Trans. Aut. Control*

7. D. Henrion, M. Šebek (1997). Numerical methods for polynomial rank evaluation. In preparation. June.

8. P. Hušek, M. Šebek, J. Štecha (1997). Numerical operations among rational matrices: standard techniques and interpolation. In preparation. June.

9. F. Kraffer, S. Pejchová, M. Šebek (1994). Numerical Performance in Matrix Diophantine Equations. *Kybernetika (Prague),* vol. 30, no. 6, pp. 745–753, Dec.

10. F. Kraffer (1995). $\mathcal{H}_2$-optimal control with $\mathcal{H}_\infty$ constraint: A polynomial approach. In: *Preprints 14th Benelux Meeting on Systems and Control,* Houthalen, Belgium, March 29–31, p. 120.

11. F. Kraffer (1995). Minimum degree solution algorithm for polynomial matrix equation. In: *Proc. EURACO Workshop on Recent Results in Robust and Adaptive Control,* Florence, Italy, September 11–14, pp. 1–11.

12. F. Kraffer (1996). Polynomial matrix to state space conversion by constant matrix operations. In: *Preprints 15th Benelux Meeting on Systems and Control,* Mierlo, The Netherlands, March 6–8, ISBN 90 6196 463 6, p. 151.

13. F. Kraffer (1996). Polynomial matrix to state space conversion without polynomial reduction. In: *Proc. 4th IEEE Mediterranean Symposium on Control & Automation,* Chania, Crete, June 10–14, pp. 483–487.

14. F. Kraffer (1996). State-space algorithm for polynomial matrix to state space conversion. In: *Proc. EURACO Workshop II, Robust and Adaptive Control of Integrated Systems,* Herrsching, Germany, October 16–18, pp. 83–90.

15. F. Kraffer (1997). State-space algorithm for the row reduction of a polynomial matrix. In: *Preprints 16th Benelux Meeting on Systems and Control,* Ol Fosse d'Outh, Houffalize, Belgium, March 5–7, p. TD45.

16. F. Kraffer (1997). Row reduction without polynomial operations: an algorithm. In: *Proc. 4th European Control Conference ECC97,* Brussels, Belgium, July 1–4.

17. F. Kraffer, H. Kwakernaak (1997). A state-space algorithm for the spectral factorization. Submitted to *36th IEEE Conference on Decision and Control.*

18. F. Kraus, M. Mansour, M. Šebek (1996). Hurwitz matrix for polynomial matrices. In: *Stability Theory (Proc. Conference "Centennial Hurwitz on Stability Theory")* (R. Jeltsch and M. Mansour, Eds.), vol. 121 of *International Series of Numerical Mathematics (ISNM),* (Monte Verita, Switzerland), pp. 67–74, IFAC, Birkhäuser Verlag.

19. F. Kraus, V. Kučera (1997). Robust assignment of polynomial matrix polytopes. In: *Proc. 4th European Control Conference ECC97,* Brussels, Belgium, July 1–4.

20. V. Kučera (1995). Algebraic methods in control, theory and applications. In: *Preprints DYCOMANS Workshop: Industrial Control and Management Methods: Theory and Practice.* UTIA AV CR, Praha, pp. 83–88.

21. V. Kučera, H. Werner (1995). Partial model matching by static state feedback. In: *Proc. 3rd European Control Conference (ECC95),* Rome, Italy, September 5–8, pp. 2974–2979.

22. V. Kučera (1996). Algebraic Design Methods. *Invited lecture for the 4th IEEE Mediterranean Symposium on Control & Automation,* Chania, Crete, June 10–14.

23. V. Kučera (1996). Algebraic methods in control, theory and applications. In: *Proc. System Modelling and Optimization.* Chapman & Hall, London, pp. 54–63.

24. V. Kučera (1996). Algebraic design methods. *The Control Handbook.* CRC Press, Boca Raton, pp. 689–700.

25. V. Kučera, J. C. Martinez Garcia, M. Malabre (1996). Partial model matching: Parametrization of solutions. In: *Preprints 13th World Congress of IFAC.* San Francisco pp. 217–222.

26. H. Kwakernaak, M. Šebek (1994). Polynomial J-spectral factorization. *IEEE Trans. Aut. Control,* **39**, 2, February, pp. 315–328.

27. H. Kwakernaak (1994). La commande robuste: Optimisation sensibilité mixte. In: *Preprints Ecole nationale supérieure d'ingénieurs électroniciens de Grenoble,* Grenoble, France, *La robustesse: analyse et synthèse de commandes robustes,* Alain Oustaloup, Ed., pp. 75–162.

28. H. Kwakernaak (1994). Frequency domain solution of the standard $\mathcal{H}_\infty$ problem. *Preprints Euraco Network, Robust and Adaptive Control Tutorial Workshop,* Dublin, Ireland, August 29 – September 2, 4 pp.

29. H. Kwakernaak (1994). Frequency domain solution of the standard $\mathcal{H}_\infty$ problem. In: *Proc. IFAC Symp. on Robust Control Design,* Rio de Janeiro, Brasil, September 14–16, p. 237–242.

30. H. Kwakernaak (1994). Frequency domain solution of the standard $\mathcal{H}_\infty$ problem. In: *pre-conference Workshop on Polynomial methods in Systems Theory and Industrial Applications, 33rd IEEE Conference on Decision and Control,* Lake Buena Vista, Florida, December 14–16.

31. H. Kwakernaak (1995). Symmetries in control system design. *Invited lecture for a Systems and Control Theory Network conference "Systems and Control – Perspectives on Theory and Practice,"* Groningen, June 14–16, 1995.

32. H. Kwakernaak (1995). Symmetries in control system design. *Plenary lecture, 3rd European Control Conference (ECC95),* Rome, Italy, September 5–8.

33. H. Kwakernaak (1995). State space algorithms for polynomial matrix computations. In: *Proc. of the EURACO workshop Recent Results in Robust and Adaptive Control,* Florence, Italy, September 11–14, pp. 133–170.

34. H. Kwakernaak (1995). Symmetries in control system design. In: *Trends in Control: A European Perspective.* A. Isidori, Ed., Springer Verlag, Berlin etc., ISBN 3-540-19967-5, pp. 17–51.

35. H. Kwakernaak (1996). How robust are $\mathcal{H}_\infty$-optimal control systems? *Invited tutorial for the DYCOMANS Workshop,* Portugal, May 15–17.

36. H. Kwakernaak, F. Kraffer (1996). State space algorithms for polynomial matrix computations. In: *Proc. 4th IEEE Mediterranean Symposium on Control & Automation,* Chania, Crete, June 10–14, pp. 468–472.

37. H. Kwakernaak (1996). How robust are $\mathcal{H}_\infty$-optimal control systems? In: *Proc. XI Congresso Brasileiro de Automática,* Sao Paulo, Brazil, September 2–6, pp. 25–36.

38. H. Kwakernaak (1996). Frequency domain solution of the standard $\mathcal{H}_\infty$ problem. In: *Polynomial Methods for Control Systems Design.* M.J. Grimble and V. Kučera, Eds., Springer-Verlag, Berlin etc., pp. 57–107.

39. M. Šebek, F. Kraus (1994). From robust stabilization to robust tracking. Report 94-02, Institute for Automatics, Swiss Federal Institute of Technology – Zürich, Switzerland, Oct.

40. M. Šebek, S. Pejchová, F. Kraffer (1994). Testing Algorithms for Linear Polynomial Equations. In: *Proc. 33rd IEEE Conference on Decision and Control,* Orlando, Florida, USA, December 14–16, pp. 2518–2519.

41. M. Šebek, F. Kraus (1995). Stochastic LQ-optimal Control for 2-D Systems. In: *Multidimensional Systems and Signal Processing*, no. 6, pp. 273–283.

42. M. Šebek, F. Kraus (1995). On $\mathcal{H}_\infty$ Problems for 2-D Systems. *Invited contribution to a Special Session at the 3rd IFAC Symposium on System Structure and Control,* Nantes, France.

43. M. Šebek, F. Kraus (1995). Sub-Optimum $\mathcal{H}_\infty$ problem for 2-D systems. In: *Proc. 3rd IEEE Mediterranean Symposium on New Directions in Control & Automation,* Cyprus, July 11–13.

44. M. Šebek, F. Kraus (1995). 1-D Control of n-D systems. In: *Proc. 3rd European Control Conference (ECC95),* Rome, Italy, September 5–8, pp. 1754–1756.

45. M. Šebek, F. Kraus (1995). Robust disturbance rejection. In: *Proc. 34th IEEE CDC Conference,* vol. 3, (New Orleans), pp. 2988–2989, IEEE-CSS, Dec.

46. M. Šebek, F. Kraus (1995). Robust stability of polynomial matrices. In: *Preprints of the 13th IFAC World Congress,* vol. H, (San Francisco), pp. 381–384, IFAC.

47. M. Šebek, S. Pejchová, D. Henrion, H. Kwakernaak (1996). Numerical Methods for Zeros and Determinant of Polynomial Matrix. In: *Proc. 4th IEEE Mediterranean Symposium on Control & Automation,* Chania, Crete, June 10–14, pp. 473–477.

48. M. Šebek, D. Henrion, S. Pejchová, H. Kwakernaak (1996). Numerical Methods for Zeros and Determinant of Polynomial Matrix. *Kybernetika (Prague),* To appear.

49. M. Šebek, R. C. W. Strijbos (1996). Polynomial Control Toolbox. In: *Proc. 4th IEEE Mediterranean Symposium on Control & Automation,* Chania, Crete, June 10–14, pp. 488–491.

50. M. Šebek, S. Pejchová, R. Strijbos, and D. Henrion (1997). Polynomial matrix operations in Matlab. In: *Extended Abstracts of the EUROCAST'97* (F. R. P. R. Moreno-Díaz and J. R. Moreno-Díaz, eds.), Las Palmas de Gran Canaria, Spain, pp. 139–141, Feb.

51. M. Šebek, R. C. W. Strijbos, and H. Kwakernaak (1997). Polynomial control toolbox: A new aid for teaching linear systems in Matlab. In: *Preprints of the 4th Symposium on Advances in Control Education,* (Istanbul, Turkey), July.

52. M. Šebek, P. Hušek (1997). Basic routines for rational matrices: A critical comparison. In: *Proc. of the 5th IEEE Mediterranean Symposium on New Directions in Control & Automation,* (Paphos, Cyprus), July.

53. R. C. W. Strijbos (1995). *Calculation of right matrix fraction descriptions: an algorithm.* Memorandum no. 1287, Department of Applied Mathematics, University of Twente, The Netherlands, 13pp.

54. R. C. W. Strijbos (1995). *A polynomial toolbox: implementation aspects.* Memorandum no. 1288, Department of Applied Mathematics, University of Twente, The Netherlands, 20pp.

55. R. C. W. Strijbos (1996). Calculation of right matrix fraction descriptions: An algorithm. In: *Proc. 4th IEEE Mediterranean Symposium on Control & Automation,* Chania, Crete, June 10–14, pp. 478–482.