List of Publications
March 2014

a. Theses:

1. "A Modification to the Insertion-Loss Method for the Design of Passive Networks", M.Sc. Thesis submitted to the Technion-Israel Institute of Technology, Haifa, Israel, June 1962.

2. "Properties of PR Functions and Applications to Network Theory", D.Sc. Thesis submitted to the Technion-Israel Institute of Technology, Haifa, Israel, July 1966.

b. Original Papers in Professional Journals with Referees

1. I. Navot and E. Zeheb, "Two Theorems on Hurwitz Polynomials and their Applications to Symmetrical and Antimetric Two-Ports", IEEE Transactions on Circuit Theory, Vol. CT-11, No. 4, Dec. 1964, pp. 500-502.

2. E. Zeheb, "On Constant Resistance Networks", Proceedings of the IEEE, Vol. 54, No. 8, August 1965, pp. 1154-1155.

3. E. Zeheb and A. Lempel, "Interpolation in the Network Sense", IEEE Transactions on Circuit Theory, Vol. CT-13, No. 1, March 1966, pp. 118-119.

4. A. Lempel and E. Zeheb, "A Note on Interpolation", IEEE Transactions on Circuit Theory, Vol. CT-14, No. 4, Dec. 1967, pp. 424-426.

5. E. Zeheb, "On Statistical Tolerance of Hybrid RC-Active Networks", Electronic Engineering, August, 1969, p. 61.

6. E. Zeheb, "Sensitivity Relationships in Linear Networks and some Observations on Hybrid Networks", IEEE Transactions on Circuit Theory, Vol. CT-17, August 1970, pp. 430-432.

7. E. Zeheb, "Tolerance Minded Hybrid Oriented Design of Active Filters", International Journal of Electronics, Vol. 29, No. 3, 1970, pp. 249-259.

8. E. Zeheb and N. Shachar, "Cascade N.I.C. Realization of Dimensionless Transfer Ratios", Ell. Lett., Vol. 6, No. 24, 26th November, 1970, pp. 764-766.

9. E. Zeheb and P. Meron, "Practical Considerations in the Design of Active Filters with Particular Reference to Micro-Power Requirements", International Journal of Electronics, Vol. 36, No. 6, 1974, pp. 811-824.

10. P. Meron, A.A. Sekey and E. Zeheb, "Design Method for Stable Second Order Digital Filters", IEEE Trans. on Acoustics, Speech and Signal Processing, Vol. ASSP-22, No. 3, June 1974, pp. 196-202.

11. E. Zeheb and P. Meron, "Optimal Gain Allocation Maximizing the Dynamic Range of a Cascade Network", AEU, Vol. 29, No. 3, March 1975, pp. 146-148.

12. E. Zeheb, "Some Aspects of Band-Pass Filter Design Pertaining to Amplifier Imperfections and Mass Production", International Jour. Circuit Theory and Applications, Vol. 3, 1975, pp. 249-260.

13. E. Zeheb, "Root Locus Techniques Applied to Proving Equivalence Between Positive Realness Conditions", Israel J. of Technology, Vol. 13, 1975, pp. 276-278.

14. A. Levi and E. Zeheb, "Stable High Q Active Networks", International Jour. Circuit Theory and Applications, Vol. 4, 1976, pp. 137-149.

15. E. Zeheb, "On Personal Optimal Sequential Saving-Consumption Strategy - A Discrete System Approach", International Jour. Systems Science, Vol. 7, No. 9, 1976, pp. 1029-1039.

16. E. Zeheb and E. Walach, "Two Parameter Root Loci Concepts and Some Applications", International Jour. Circuit Theory and Applications, Vol. 5, l977, pp. 3O5-315.

17. E. Walach and E. Zeheb, "Sign Test of Multivariable Real Polynomials", IEEE Trans. on Circ. and Syst., Vol. CAS-27, July 198O, pp. 619-625.

18. E. Zeheb and E. Walach, "Zero Sets of Multiparameter Functions and Stability of Multidimensional Systems", IEEE Trans. on Audio Speech and Signal Processing, Vol. ASSP-29, April 1981, pp. 197-2O6.

19. E. Zeheb and E. Walach, "Necessary and Sufficient Conditions for Absolute Stability of Linear n-Ports", International Jour. Circuit Theory and Applications, Vol. 9, July 1981, pp. 311-33O.

20. E. Walach and E. Zeheb, "On Multivariable Half Plane Analyticity and Positive Realness", IEEE Trans. on Circ. and Syst., Vol. CAS-28, Sept. 1981, pp. 927-930.

21. E. Walach and E. Zeheb, "Generalized Zero Sets of Multiparameter Polynomials and Feedback Stabilization", IEEE Trans. on Circ. and Syst., Vol. CAS-29, Jan. 1982, pp. 15-23.

22. E. Walach and E. Zeheb, "On Non-Essential Singularities of the Second Kind in Multivariable Rational Functions", International Jour. Control, Vol. 35, Feb. 1982, pp. 391-395.

23. E. Walach and E. Zeheb, "Root Distribution for the Ellipse", IEEE Trans. Automat. Contr., Vol. AC-27, Aug. 1982, pp. 960-963.

24. E. Zeheb, "Necessary and Sufficient Conditions for the Existence of Real Roots of a Quartic Equation", International Jour. Circuit Theory and Applications, Vol. 10, July 1982, pp. 289-291.

25. E. Zeheb and D. Hertz, "Complete Root Distribution with Respect to Parabolas and Some Results with Respect to Hyperbolas and Sectors",

International Jour. Control, Vol. 36, Sept. 1982, pp. 517-530. Also, invited synopsis in Zentralblatt fur Mathematik, Band 489, April 1983, pp. 138-139.

26. E. Walach and E. Zeheb, "N-Dimensional Stability Margins Computation and a Variable Transformation", IEEE Trans. Acoust. Speech and Signal Proc., Vol. ASSP-30, Dec. 1982, pp. 887-893.

27. E. Zeheb, "On N-Dimensional Impedances", International Jour. Circuit Theory and Applications, Vol. 11, No. 1, Jan. 83, pp. 106-108.

28. E.I. Jury and E. Zeheb, "An Algebraic Algorithm for Determining the Desired Gain of Multi-Variable Feedback Systems", International Jour. Control, Vol. 37, May 1983, pp. 1081-1094.

29. D. Hertz, E.I. Jury and E. Zeheb, "A Simplified Analytic Stability Test for Systems with Commensurate Time Delays", IEE Proc., Part D, Vol. 131, Jan. 1984, pp. 52-56.

30. D. Hertz and E. Zeheb, "Sufficient Conditions for Stability of Multidimensional Discrete Systems", IEEE Proc., Vol. 72, Feb. 1984, p. 226.

31. D. Hertz and E. Zeheb, "A General Property of the Transformation Matrices Associated with the n-Variable Bilinear Transformation", IEEE Trans. Circuits and Systems, Vol. 31, March 1984, pp. 296-299.

32. E. Zeheb, "Another Simplification in Multidimensional Stability Tests", IEEE Trans. Audio Speech and Signal Processing, Vol. 32, April 1984, p. 453-455.

33. E. Zeheb and D. Hertz, "A Unified Approach to Root Distribution with Respect to Parabolas, Ellipses and Hyperbolas", IEEE Trans. on Circuits and Systems, Vol. 31, May 1984, pp. 505-509.

34. E. Zeheb and D. Hertz, "Another Proof and a Generalization of a Theorem on N-Dimensional Stability", IEEE Proc., Vol. 72, June 1984, pp. 745-746.

35. E. Zeheb and D. Hertz, "Robust Control of the Characteristic Values of Systems with Possible Parameter Inaccuracies", International Jour. Control, Vol. 40, July 1984, pp. 81-96.

36. D. Hertz, E.I. Jury and E. Zeheb, "Stability Independent and Dependent on Delay for Delay Differential Systems", Journal of the Franklin Institute, Vol. 318, August 1984, pp. 143-150.

37. E. Zeheb and P. Landau, "A New Approach to Design of Coupling Networks", Journal of the Franklin Institute, Vol. 318, Nov. 1984, pp. 357-371.

38. D. Hertz and E. Zeheb, "Sufficient Condition for Instability of Multidimensional Systems", IEEE Proc., Vol. 72, August 1984, pp. 1092-1093.

39. P. Landau and E. Zeheb, "On Solving Broad-Band Matching Design Equations", Int. J. Circ. Theor. and Appl., Vol. 13, April 1985, pp. 123-132.

40. E. Walach and E. Zeheb, "Comments on 'On The Walach-Zeheb Multi-variable Positivity Test'", IEEE Trans. on Circ. and Syst., Vol. CAS 32, April 1985, pp. 398-401.

41. D. Hertz and E. Zeheb, "A Generalization of Rudin's Multivariable Stability Theorem", IEEE Trans. on Acoust. Speech and Signal Process., Vol. ASSP-33, June 1985, pp. 725-728.

42. D. Hertz and E. Zeheb, "Stability Invariance of Discrete and Continuous Multidimensional Systems Under Some Variable Transformations", IEEE Trans. on Acoust. Speech and Signal Proc., Vol. ASSP-33, Dec. 1985, pp. 1540-1545.

43. N.K. Bose and E. Zeheb, "Kharitonov Theorem and Stability Test of Multidimensional Digital Filters", IEE Proc., Part G., Vol. 133, Aug. 1986, pp. 187-190.

44. D. Hertz, E.I. Jury and E. Zeheb, Reply to "Comments on a Simplified Analytical Stability Test for Systems with Delay", IEE Proc. Part D., Vol. 133, May 1986, pp. 142-143.

45. E. Zeheb, "A Sufficient Condition for Output Feedback Stabilization of Uncertain Systems", IEEE Trans. Automat. Contr., Vol. AC-31, Nov. 1986, pp. 1055-1057.

46. D. Hertz and E. Zeheb, "On the Stability and Instability of n-Dimensional Discrete Systems ($n \geq 1$)", IEEE Trans. Automat. Contr., Vol. AC-31, Sept. 1986, pp. 872-874.

47. I.E. Jury and E. Zeheb, "On a Stability Test for a Class of Distributed Parameter Systems with Delays", IEEE Trans. on Circ. and Syst., Vol. CAS-33, Oct. 1986, pp. 1027-1028.

48. D. Hertz and E. Zeheb, "Another Proof of a Property of Multivariable Bilinear Transformation Matrices", IEEE Trans. on Circ. and Syst., Vol. CAS-34, Feb. 1987, pp. 209-210.

49. D. Hertz, E.I. Jury and E. Zeheb, "Root Exclusion from Complex Poly-domains and Some of its Applications", Automatica, Vol. 23, No. 3, 1987, pp. 399-404.

50. D. Hertz and E. Zeheb, "Simplifications in Multi-Dimensional Stability Margin Computations", IEEE Trans. on Acoust. Speech and Signal Proc., Vol. ASSP-35, April 1987, pp. 566-568.

51. G. Fruchter, U. Srebro and E. Zeheb, "On Several Variable Zero Sets and Application to MIMO Feedback Stabilization", IEEE Trans. on Circ. and Syst., Vol. CAS-34, Oct. 1987, pp. 1208-1220.

52. E. Zeheb, "On Polynomials Having All Zeros in a Half Strip of the Complex Plane", Journal of Math. Analysis and Appl., Vol. 132, No. 1, May 15, 1988, pp. 75-86.

53. N.K. Bose, E.I. Jury and E. Zeheb, "On Robust Hurwitz and Schur Polynomials", IEEE Trans. on Automat. Contr., Vol. 33, Dec. 1988, pp. 1166-1168.

54. E. Zeheb, "Necessary and Sufficient Conditions for Root Clustering of a Polytope of Polynomials in a Simply Connected Domain", IEEE Trans. on Automat. Contr., Vol. 34, 1989, pp. 986-990.

55. E. Zeheb, "Necessary and Sufficient Conditions for Robust Stability of a Continuous System - The Continuous Dependency Case Illustrated Via Multilinear Dependency", IEEE Trans. on Circ. and Syst., Vol. CAS-37, 1990, pp. 47-53.

56. G. Fruchter, U. Srebro and E. Zeheb, "Conditions on the Boundary of the Zero Set and Application to Stabilization of Systems with Uncertainty", Journal of Mathematical Analysis and Applications, Vol. 161, No. 1, Oct. 1991, pp. 148-175.

57. G. Fruchter, U. Srebro and E. Zeheb, "On Possibilities of Utilizing Various Conditions to Determine a Zero Set", Journal of Mathematical Analysis and Applications, Vol. 161, No. 2, Nov. 1991, pp. 361-366.

58. E. Zeheb, "On the Largest Modulus of Polynomial Zeros", IEEE Trans. on Circ. and Syst., Vol. CAS-38, March, 1991, pp. 333-337.

59. A. Betser and E. Zeheb, "Reduced Order IIR Approximation to FIR Digital Filters", IEEE Trans. on Signal Process., Vol. 39, No. 11, Nov. 1991, pp. 2540-2544.

60. E. Zeheb, "On Solving the Equation Ax=b with More Variables Than Equations", IEEE Trans. on Circuits and Syst., I, Vol. CAS-39, Oct. 1992, pp. 833-834.

61. E. Zeheb, "Necessary and Sufficient Conditions for Robust Stability of Discrete Systems with Coefficients Depending Continuously on Two Interval Parameters". Automatica Special Issue on Robust Control, Vol. 29, No. 1, Jan. 1993, pp. 241-244.

62. A. Betser and E. Zeheb, "Design of Robust Strictly Positive Real Transfer Functions", IEEE Trans. on Circ. and Syst., I, Vol. 40, Sept. 1993, pp. 573-580.

63. J. Hocherman, V.L. Kharitonov, J. Kogan and E. Zeheb, "On the Stability of Quasipolynomials with Weighted Diamond Coefficients", Multidimensional Systems and Signal Processing, Vol. 5, No. 4, Oct. 1994, pp. 397-418.

64. A. Betser and E. Zeheb, "Modified Output Error Identification-Elimination of the SPR Condition", IEEE Trans. Automat. Contr., Vol. 40, Jan. 1995, pp. 190-193.

65. J. Hocherman, J. Kogan and E. Zeheb, "On Exponential Stability of Linear Systems and Hurwitz Stability of Characteristic Quasipolynomials", Syst. and Contr. Lett., Vol. 25, No. 1, 1995, pp. 1-7.

66. J. Hocherman and E. Zeheb, "Design Considerations and Stability of Digital Filters with Finite Wordlength", Circ. Systems, and Signal Processing, Vol. 13, No. 2, Feb. 1995, pp. 145-166.

67. A. Betser, N. Cohen and E. Zeheb, "On Solving the Lyapunov and Stein Equations for a Companion Matrix", Syst. and Contr. Lett., Vol. 25, No. 3, 1995, pp. 211-218.

68. A. Levkovich, E. Zeheb and N. Cohen, "Frequency Response Envelopes of a Family of Uncertain Continuous-Time Systems", IEEE Trans. on Circ. and Syst., I, Vol. 42, March 1995, pp. 156-165.

69. A. Levkovich, N. Cohen and E. Zeheb, "A Root Distribution Criterion for an Interval Polynomial in a Sector", IMA Journal of Mathematical Control and Information, Vol. 13, Dec. 1996, pp. 321-333.

70. L. Naimark and E. Zeheb, "An Extension of the Levy-Desplanque Theorem and Some Stability Conditions for Matrices with Uncertain Entries", IEEE Trans. on Circuits and Systems, I, Vol. 44, Feb. 1997, pp. 167-170.

71. Y. Elgrichi and E. Zeheb, "Stability of Multi-Channel Sound Control Systems", IEE Proc. Vision, Image and Sig. Process., Vol. 144, No. 1, Feb. 1997, pp. 1-7.

72. G. Fruchter, U. Srebro and E. Zeheb, "Stability of Discrete Nonlinear Control Systems", IMA Journal of Mathematical Control and Information, Vol. 14, No. 4, 1997, pp. 333-351.

73. L. Naimark and E. Zeheb, "All Constant Gain Stabilizing Controllers for an Interval Delay System with Uncertain Parameters", Automatica, Vol. 33, Sept. 1997, pp. 1669-1675.

74. J. Hocherman, J. Kogan, A. Leizarowitz and E. Zeheb, "Robust Stability of Quasipolynomials with Annular Uncertainty", Jour. of Multi-Dimensional Systems and Signal Processing, Vol. 9, 1998, pp. 77-92.

75. E. Zeheb, "Robust Stability of Non-Linear Time Varying Systems", Kybernetika, Vol. 35, 1999, pp. 415–428.

76. J. Kogan, A. Leizarowitz and E. Zeheb, "On Simultaneous Stabilization of Linear Plants", Latin American Applied Research, Vol. 29, 1999, pp. 167–174, INVITED PAPER.

77. L. Naimark, J. Kogan and E. Zeheb, "Stabilizability Considerations and Design of Rational Controllers for a Class of Time-Delay Systems", Automatica, Vol. 36, No. 3, 2000, pp. 475–480.

78. N. Cohen, A. Levkovizh, P. de Oliveira and E. Zeheb, "Frequency Response Envelopes of a Family of Uncertain Discrete-Time Systems", Circuits Systems Signal Process., Vol. 22, No. 1, 2003, pp. 19–41.

79. Y. Dolgin and E. Zeheb, "On Routh-Pade Model Reduction of Interval Systems", IEEE Trans. on Aut. Contr., Vol. 48, No. 9, 2003, pp. 1610–1612.

80. E. Zeheb, "Correction to Necessary and Sufficient Conditions for Root Clustering of a Polytope of Polynomials in a Simply Connected Domain", IEEE Trans. on Aut. Contr., Vol. 48, No. 9, 2003, p. 1674.

81. E. Zeheb, "Book Review, Computational Aspects of Linear Control by Claude Brezinski, Kluwer, Dordrecht, 2002", AUTOMATICA, Vol. 39, No. 8, Aug. 2003, pp. 1505–1506.

82. Y. Dolgin and E. Zeheb, "Model Reduction of Uncertain FIR Discrete-Time Systems", IEEE Trans. on Circ. and Syst. II, Vol. 51, Aug. 2004, pp. 406–411.

83. Y. Dolgin and E. Zeheb, "Model Reduction of Uncertain Systems Retaining the Uncertainty Structure", Systems and Control Letters, Vol. 54, Aug. 2005, pp. 771–779.

84. V. Spitsa, A. Alexandrovitz and E. Zeheb, "Robust Apporach to a Small-Signal Stability Analysis of Power Systems", WSEAS Trans. on Circuits and Systems, Vol. 4, Nov. 2005, pp. 1449–1456.

85. V. Spitsa, A. Alexandrovitz and E. Zeheb, "Zero Set Application to Voltage Stability Analysis of Power System with Uncertain Load Characteristics", Intelligent Automation and Soft Computing, Vol. 12, No. 1, 2006, pp. 89–102.

86. E. Zeheb and R. Shorten, "A Note on Spectral Conditions for Positive Realness of Single-Input Single-Output Systems with Strictly Proper Transfer Functions", IEEE Trans. on Automat. Contr., Vol. 51, May 2006, pp. 897–900.

87. E. Zeheb, O. Mason, S. Solmaz and R. Shorten, "Some Results on Quadratic Stability of Switched Systems with Interval Uncertainty", International Journal of Control, Vol. 80, No. 6, June 2007, pp. 825–831.

88. R. N. Shorten, P. Curran, K. Wulff and E. Zeheb, "A Note on Spectral Conditions for Positive Realness of Transfer Function Matrices", IEEE Trans. on Autom. Control, Vol. 53, June 2008, pp. 1258–1261.

89. E. Zeheb and Y. Dolgin, "Design for Positivity of Analytic Functions", IMA Journal of Mathematical Control and Information, Vol. 25, No. 4, Dec. 2008, pp. 409–417.

90. Y. Dolgin and E. Zeheb, "Finite Nyquist and Finite Inclusions Theorems for Disjoint Stability Regions", Systems and Control Letters (SCL), Vol. 58, 2009, pp. 804–809.

91. V. Spitsa, A. Alexandrovitz and E. Zeheb, "Design of a Robust State Feedback Controller for a STATCOM Using a Zero Set Concept", IEEE PES Trans. on Power Delivery, Vol. 25, No. 1, Jan. 2010, pp. 456–467.

92. E. Zeheb, R. Shorten and S. Shravan K. Sajja, "Strict Positive Realness of Descriptor Systems in State Space", International Journal of Control (IJC), Vol. 83, No. 9, Sept. 2010, pp. 1799–1809.

93. A. Nakhmani, M. Lichtsinder and E. Zeheb, "Generalized Bode Envelopes and Generalized Nyquist Theorem for Analysis of Uncertain Systems", International Journal of Robust and Nonlinear Control, Vol. 21, No. 7, 2011, pp. 752–767.

94. Y. Dolgin and E. Zeheb, "LMI Characterization of General Stability Regions for Polynomials", IEEE Trans. on Automat. Contr., Vol. 56, No. 4, April 2011, pp. 890–895.

95. E. Zeheb, "Robust Stability and Performance of Engineering Systems Under Uncertainty Conditions" (In Hebrew), Hashmal VeAnashim, Issue 40, May 2012, pp. 8–14.

96. A. Nakhmani, E. Zeheb and M. Lichtsinder, "Robust Controller Design Based on Generalized Bode Envelopes", IMA Journal of Mathematical Control and Information, First published online Dec. 1, 2011, pp. 1–28, Vol. 29, No. 2, June 2012, pp. 171–198.

97. S. Sajja, M. Corless, E. Zeheb and R. Shorten, "On Dimensionality Reduction and the Stability of a Class of Switching Descriptor Systems", Automatica, Vol. 49 (2013), pp. 1855–1860.

98. S. Sajja, M. Corless, E. Zeheb and R. Shorten, "Comments and Observations on the Passivity of Descriptor Systems in State Space", Int. J. Control, Vol. 86, No. 1, Jan. 2013, pp. 120–126. (First published online Sept. 4, 2012).

99. Y. Dolgin and E. Zeheb, "Linear Constraints for Convex Approximation of the Stability Domain of Polynomials in Coefficient Space", in AMS Contemporary Mathematics Volume on "Variational and Optimal Control Problems on Unbounded Domains", Edited by G. Wolansky and A. J. Zaslavski, 2014.

c. Conference Plenary and Invited Talks

1. IFAC Workshop on Robust Control, Tegernsee, FRG, July 1987.

   Subject of Talk: "On Robust Stabilization of Systems Under Uncertainty Conditions".

2. The 2nd Israel Symposium on Circuits Systems and Control (ISCSC 88), Herzlia, Israel, May-June 88.

   Subject of Talk: "On Stability and Performance of Discrete and Continuous Systems under Uncertain Conditions".

3. IFAC Workshop on Robust Control, Kapel Am Albis, Switzerland, Sep. 91.

   Subject of Talk: "Necessary and Sufficient Conditions for Robust Schur Property – The Continuous Dependence Case".

4. International Workshop on Robust Control, Monte Verita, Ascona, Switzerland, April 12-17, 1992.

   Subject of Talk: "Analysis and Design of Robustly Stable Systems Via Zero-Set Methods".

5. International Conference on Control Theory and its Applications, Kibbutz Maale HaChamisha, Israel, 18-21 Oct., 1993. Work by A. Betser and E. Zeheb.

   Subject of Talk: "Asymptotically Stable Adaptive Output Error Identification with No SPR Requirement (speaker: A. Betser).

6. Hurwitz Centenary Conference on Stability Theory, Monte Verita, Ascona, Switzerland, May 21-26, 1995.

   Subject of Talk: "On the Characterization and Formation of Local Convex Directions for Hurwitz Stability".

7. Workshop on Uncertainty: Models and Measures, Lambrecht, Germany, July 22-24, 1996.

   Subject of Talk: "Zero-Set Analysis of Systems with Uncertainties".

8. Joint 2005 International Symposium on Intelligent Control and 13th Mediterranean Conference on Control and Automation (2005 ISIC-MED), June 27–29, 2005, Limassol, Cyprus. Work by E. Zeheb, O. Mason, S. Solmaz and R. Shorten.

   Subject of Talk: "On the Quadratic Stability of Switched Interval Systems: Preliminary Results", (speaker: O. Mason).

9. Fourth International Conference of Applied Mathematics and Computing, Aug. 12–18, 2007, Plovdiv, Bulgaria. Work by E. Zeheb and Y. Dolgin.

   Subject of Talk: "Design for Positivity of Functions Admitting Taylor Expansion".

10. International Symposium on Signals, Circuits and Systems (ISSCS 2011), June 29–July 1, 2011, Iasi, Romania. Work by E. Zeheb, R. Shorten and S. Sajja.

Subject of Talk: "Necessary and Sufficient Conditions for Passivity of Descriptor Systems".

11. IEEE 5th International Symposium on Communication, Control and Signal Processing (ISCCSP), May 2–4, 2012, Rome, Italy.

    Subject of Talk: "Are Zeros of Zero Worth?".

d. Invited Chapters in Books

1. "Analysis and Design of Robustly Stable Systems Via Zero-Set Methods", in M. Mansour, Ed., Robustness of Dynamic Systems with Parameter Uncertainties, Birkhauser Verlag, Basel, 1992.

2. "On the Stability of a Digital Filter with Finite Wordlength", with J. Hocherman, in M. Jamshidi, M. Mansour and B.D.O. Anderson, Ed., Fundamentals of Discrete-Time Systems, TSI Press, NM, 1993.

3. "On the Characterization and Formation of Local Convex Directions for Hurwitz Stability", in R. Jeltch and M. Mansour, Ed., Stability Theory, Birkhauser Verlag, Basel, 1996. (International Series of Numerical Mathematics, V. 121).

4. "Zero Sets Analysis of Systems with Uncertainties", in H.G. Natke and Y. Ben-Haim, Ed., Uncertainty: Models and Measures, Akademie Verlag, Berlin, 1997.

5. "On Rational Stabilizing Controllers for Interval Delay Systems", with L. Naimark, J. Kogan and A. Leizarowitz, Ch. 8 in L. Dugard and E.I. Verriest, Eds., Stability and Control of Time-Delay Systems, Springer Verlag Lecture Notes in Control and Information Sciences, No. 228, London 1998.

e. Refereed Papers in Conference Proceedings

1. E. Zeheb, "On the Relation between a Positive Real Function and a Three-Port Matrix", Proceedings of the Fifth Allerton Conference on Circuit and Systems Theory, Oct. 1967, pp. 470-480.

2. E. Zeheb, "Simplified Integrated Circuit Filter Design with Computer Oriented Optimization", Proceedings of the Eleventh Midwest Symposium on Circuit Theory, May 1968, pp. 472-481.

3. E. Zeheb, "Integrated Active Filter Design" (tutorial; in Hebrew), Proceedings of the National Filter Symposium, Technion - Israel Inst. of Tech., Haifa, Israel, July 5-7, 1970, pp. 1-12.

4. E. Zeheb, "Statistical Considerations in the Design of Mass-Produced Active Filters", Abstracts of the 9th Israel IEEE Conv., Tel-Aviv, April 22-24, l975, p.C1-5.

5. A. Levi and E. Zeheb, "Stable High Q Active Networks", Abstracts of the 9th Israel IEEE Conv., Tel-Aviv, April 22-24, l975, p.C1-1.

6. E. Walach and E. Zeheb, "Computer Oriented Two-Parameter System Analysis by Expanding Root Loci Concepts", Proceedings of the 9th Hawaii International Conf. on System Sciences, Honolulu, Hawaii, Jan. 6-8, l976, p. 215.

7. E. Zeheb and E. Walach, "A Theorem on Zero Sets and Some Applications to Multidimensional Systems", Proceedings of the 1st Melecon Conference, Tel-Aviv, Israel, May 24-28, 1981.

8. D. Hertz and E. Zeheb, "Pole Placement of Discrete and Analog Systems with Possible Parameter Uncertainty", Proceedings of the 13th IEEE Convention in Israel, Tel-Aviv, March 1983.

9. E. Zeheb, "Output Feedback Stabilization of Delay Linear Systems with Uncertain Parameters", Mathematical Theory of Networks and Systems (MTNS-83), Beer Sheva, Israel, June 20-24, 1983. Also in Lecture Notes in Control and Information Sciences, Vol. 58, Springer-Verlag, 1984.

10. N.K. Bose and E. Zeheb, "Kharitonov's Theorem and Stability Test of Multidimensional Digital Filters", 1986 IEEE International Symposium on Circuits and Systems, (ISCAS 86), San Jose, CA., U.S.A., May 5-7, 1986.

11. N.K. Bose, E.I. Jury and E. Zeheb, "On Robust Hurwitz and Schur Polynomials", IEEE 25th Conference on Decision and Control (CDC), Athens, Dec. 1986.

12. G. Fruchter, U. Srebro and E. Zeheb, "An Analytic Method for Design of Uncertain Discrete Non-Linear Control Systems", IEEE 15th Conference of Electrical and Electronics Engineers, April 1987, Tel-Aviv, Israel. (Session 1.4).

13. G. Fruchter, U. Srebro and E. Zeheb, "On Several Variable Zero Sets and Applications", 1987 IEEE International Symposium on Circuits and Systems (ISCAS 87), Philadelphia, PA., U.S.A., May 1987.

14. E. Zeheb, "Robust Stability of Interval Matrices", The 5th Haifa Matrix Theory Conf., June 2-4, 1989, Israel.

15. E. Zeheb, "The Zero-Set Concept for Robust Stability and Robust Stabilization", Robust Control Conf., Israel Assoc. for Automat. Contr., Herzlia, June 10, 1990.

16. E. Zeheb, "On the Largest Modulus of the Eigenvalues of Real and Complex Matrices", The 6th Haifa Matrix Theory Conf., June 11-14, 1990, Israel.

17. E. Zeheb, "Necessary and Sufficient Conditions for Robust Schur Property - The Continuous Dependency Case", International Symposium on Mathematical Theory of Networks and Systems, MTNS 91, June 17-21, 1991, Kobe, Japan, Vol. 1, pp. 425-428.

18. J. Hocherman and E. Zeheb, "Robust Stability of Time Delay Systems Under Uncertainty Conditions", European Conference on Circuits Theory and Design (ECCTD), Davos, Switzerland, Aug. 1993.

19. J. Hocherman and E. Zeheb, "Stability of Time Delay Systems with Disc Uncertainties", Int. Conf. on Control Theory and Appl., Maale HaChamisha, Oct. 18-21, 1993.

20. J. Hocherman, J. Kogan and E. Zeheb, "Simple Stability Criterion for Quasipolynomial Families with Uncertain Coefficients and Uncertain Delays", 32nd IEEE Conf. on Decision and Control (CDC), San Antonio, Texas, Dec. 15-17, 1993.

21. E. Zeheb, "Conditions for Hurwitz Stability of Interval Matrices", IEEE Intl. Symp. on Circ. and Syst. (ISCAS), London, England, May 30 to June 2, 1994.

22. L. Naimark and E. Zeheb, "A New Test for Stability of Interval Matrices", 33rd IEEE Conf. on Decision and Control (CDC), Florida, Dec. 14-16, 1994.

23. E. Zeheb, "How to Derive a Set of Local Convex Directions for Hurwitz Stability", 34th IEEE Conf. on Decision and Control (CDC), New Orleans, U.S.A., Dec. 13-15, 1995.

24. M. Sandler and E. Zeheb, "On Using Mathematica to Implement the Zero Set Technique", IEE Colloquium on Symbolic Computation for Control, 2/4/96, London, England.

25. Y. Elgrichi and E. Zeheb, "Stability of Multi-Channel Harmonic Sound Control Systems with Uncertainties", The 19th IEEE Convention of Electrical and Electronics Engineers in Israel, Nov. 5-6, 1996, Jerusalem.

26. L. Naimark and E. Zeheb, "Constant Gain Stabilizing Controller Design for Systems with Bounded Interval Delay", The 19th IEEE Convention of Electrical and Electronics Engineers in Israel, Nov. 5-6, 1996, Jerusalem.

27. E. Zeheb, "Robust Stability of Non-Linear Time-Varying Systems", The 5th IEEE Mediterranean Conference on Control and Systems, Paphos, Cyprus, July 21-23, 1997.

28. A. Feuer and E. Zeheb, "Robust Stability of Interval Polynomial Sets in Discrete-Time", 36th IEEE Conf. on Decision and Control (CDC), San Diego, Calif., U.S.A., Dec. 10–12, 1997.

29. L. Naimark, J. Kogan and E. Zeheb, "Stabilizing Rational Controllers for a Class of Time-Delay Systems", IFAC Workshop on Linear Time-Delay Systems, Grenoble, France, July 6–7, 1998, pp. 177–182.

30. S. Gornostaev and E. Zeheb, "Stability of Non-Linear Time-Varying Luré Systems with Linear Part Uncertainty", IASTED International Conference on Control and Applications, Banff, Canada, July 25-29, 1999.

31. Y. Dolgin and E. Zeheb, "Model Reduction of Uncertain Systems", The IEEE 22nd Convention of Electrical and Electronics Engineers in Israel, Tel-Aviv, Israel, Dec. 1, 2002.

32. S. Gornostaev and E. Zeheb, "Limit Cycle Analysis of Non-Linear Systems with Uncertainty in the Linear Part", The IEEE 22nd Convention of Electrical and Electronics Engineers in Israel, Tel-Aviv, Israel, Dec. 1, 2002.

33. A.G. Lim, V. Sreeram and E. Zeheb, "A Technique for Reduction of Uncertain FIR Filters", IEEE Int. Symp. on Circ. and Syst. (ISCAS), Bangkok, Thailand, May 2003.

34. L. Grouzman, R. Kulesky and E. Zeheb, "Identification-Based Power Station Models for Purposes of Robust Control Design", IEEE American Control Conference (ACC), Denver, Colorado, USA, June 4–6, 2003.

35. L. Grouzman, R. Kulesky, G. Nudelman and E. Zeheb, "Improvement of Power Process Identification Based on Data Prefiltering", Israel Association of Electrical and Electronics Engineers 4th Conference on Electricity and Control, June 11–13, 2003, Eilat, Israel.

36. Y. Dolgin and E. Zeheb, "Model Reduction of Uncertain Systems: Approximation by Uncertain System", IEEE Conference on Decision and Control (CDC), Maui, Hawaii, USA, Dec. 9–12, 2003.

37. V. Spitsa, A. Alexandrovitz and E. Zeheb, "Voltage Stability Analysis of Power Systems with Uncertain Load Characteristics", World Automation Congress (WAC 2004), Seville, Spain, June 28–July 1, 2004.

38. Y. Dolgin and E. Zeheb, "Computing Minimum Phase Factors of Polynomials", 2005 European Conference on Circuit Theory and Design (ECCTD 2005), 29 August–1 September, Cork, Ireland, Vol. 2, pp. 139–142.

39. V. Spitsa, A. Alexandrovitz and E. Zeheb, "Root Clustering Method for a Small-Signal Stability Analysis of Power Systems", 7th WSEAS International Conference on Mathematical Methods and Computational Techniques in Electrical Engineering, Sofia, Bulgaria, 27–29 Oct, 2005, pp. 275–280.

40. A. Nakhmani, M. Lichtsinder and E. Zeheb, "Generalized Nyquist Criterion and Generalized Bode Diagram for Analysis and Synthesis of Uncertain Control Systems", The Joint Convention of the Society of Electrical and Electronics Engineers in Israel, IEEE Israel and Med Power (Electricity 2006), 15–17 Nov. 2006, Eilat, Israel.

41. R. Shorten, P. Curran, K. Wulff, C. King and E. Zeheb, "On Spectral Conditions for Positive Realness of Transfer Function Matrices", Proc. of the 2008 American Control Conference (ACC), Seattle, Washington, June 11–13, 2008.

42. Y. Dolgin and E. Zeheb, "Model Reduction with Guaranteed Stability", 25th IEEE Convention in Israel, Dec. 3–5, 2008, Eilat, Israel.

43. V. Spitsa, A. Alexandrovitz and E. Zeheb, "Robust Pole Placement Technique for Statcom Controller Design", 25th IEEE Convention in Israel, Dec. 3–5, 2008, Eilat, Israel.

44. Y. Dolgin and E. Zeheb, "LMI Stability Constraints for Disjoint Stability Regions Using Rouché Theorem", 48th IEEE Conference on Decision and Control (CDC), Shanghai, China, Dec. 16–18, 2009.

45. Y. Dolgin and E. Zeheb, "Delay-Dependent H_∞ Model Reduction of Time-Delay Systems," IEEE 26th Convention of Electrical and Electronics Engineers in Israel (IEEEI 2010), Nov. 17–20, 2010, Eilat, Israel.

46. Y. Dolgin and E. Zeheb, "Linear Constraints for Convex Approximation of the Stability Domain of Polynomials in Coefficient Space," Proceedings of the Workshop "Variational and Optimal Control Problems on Unbounded Domains", Jan. 9–12, 2012, Haifa, Israel.

47. S. S. K. Sajja, M. J. Corless, E. Zeheb and R. Shorten, "Stability of a Class of Switched Descriptor Systems", Proceedings of the 2013 American Control Conference (ACC 2013), June 17–19, 2013, Washington DC, U.S.A.

48. Ezra Zeheb, Robert Shorten and Edward J. Davison, "Static Output Feedback Passivation of a SISO System Characterized by State Matrices", Proceedings of the 2013 American Control Conference (ACC 2013), June 17–19, 2013, Washington DC, U.S.A

f. Seminar Invited Talks

1. Seminar of the Northern Electric Co. (Bell, Canada), Ottawa, March 1968.

   Subject of Talk: "Simplifying Filter Design".

2. University of California, Davis, Ca., U.S.A., 1976.

   Subject of Talk: "Stable 2-D IIR Digital Filters Design Methods".

3. University of Firenze, Firenze, Italy, Sept. 1978.

   Subject of Talk: "Design Methods for Stable Recursive N-Dimensional Filters".

4. University of Roma, Rome, Italy, Sept. 1978.

   Subject of Talk: "Some New Techniques for the Analysis of Two-Parameter Systems".

5. University of Natal, Durban, South-Africa, Aug. 1979.

   Subject of Talk: "Positivity and Non-Negativity of Multi-Variable Real Polynomials".

6. University of Cape-Town, South-Africa, Sept. 1979.

   Subject of Talk: "Zero Regions of Multiparameter Functions and Applications to Signal Processing".

7. University of Stellenbosch, South-Africa, Sept. 1979.

   Subject of Talk: "Zero Regions of Multiparameter Functions and Applications to Signal Processing".

8. Ben-Gurion University of the Negev, Beer-Sheva, Israel, May 1982.

   Subject of Talk: "Stability and Stabilization of Continuous and Discrete Multidimensional Systems".

9. U.S. Airforce Base (Wright-Patterson), Dayton, Ohio, U.S.A., Sept. 1982.

   Subject of Talk: "Robust Design of Systems with Uncertain Specifying Parameters by Output Feedback".

10. IBM Research Center (Mathematics Dept.), Yorktown Heights, N.Y., U.S.A., Oct. 1982.

    Subject of Talk: "On Zero Sets of Multiparameter Polynomials and some Applications to 2-D Signal Processing Systems".

11. University of Massachusetts, Amherst, MA., U.S.A., Sept. 1988.

    Subject of Talk: "Necessary and Sufficient Conditions for Robust Stability: The General Continuous Dependency Case".

12. Nanyang Technological University, Singapore, July, 1991.

    Subject of Talk: "The Zero Set Concept for Robust Stability and Robust Stabilization".

13. Tokyo Institute of Technology, Tokyo, Japan, June, 1991.

    Subject of Talk: "Progress and Prospects in Robust Stability and Robust Stabilization".

14. Dipartimento di Automatica e Informatica, Torino, Italy, Sept. 1993.

    Subject of Talk: "Robust Stability of Time Delay Systems Under Uncertainty Conditions".

15. Georgia Institute of Technology, Atlanta, GA., Feb. 1994.

    Subject of Talk: "Robust Stability of Time Delay Systems Under Uncertainty Conditions".

16. Centre de Automatic e System, Ecole de Mines, Fontainebleau, France, Feb. 1994.

    Subject of Talk: "Robust Stability of Time Delay Systems Under Uncertainty Conditions".

17. Technion - Israel Institute of Technology, Haifa, Israel, April 1995.

    Subject of Plenary Talk: "Developments and Research Directions in the Analysis and Design of Control Systems Under Uncertainty Conditions".

18. University of Maryland, Baltimore, MD., Dec. 1995.

    Subject of Talk: "On the Characterization and Formation of Local Convex Directions for Hurwitz Stability".

19. The Mathematical Club, Technion - Israel Institute of Technology, Haifa, Israel, March 1996.

    Subject of Talk: "On Zeros, Engineers and Mathematicians".

20. University of Maryland, College Park, Oct. 1998.

    Subject of Talk: "Stabilizability Considerations and Design of Rational Controllers for a Class of Time-Delay Systems".

21. University of Massachusetts, Amherst, MA., U.S.A., Oct. 1998.

    Subject of Talk: "Stabilizability Considerations and Design of Rational Controllers for a Class of Time-Delay Systems".

g. Research Reports

1. "Microcircuit Models and Diagnostic Techniques for Environmental Failure Mode Prediction" - with G.J. Herskowitz and T.J. Kobylarz, Research Report EP-1, NASA Grant NGR 31-003-050, May 1968.

2. "Variations in High and Low Frequency Behavior of Linear Integrated or Hybrid Networks and Some Sensitivity Relationships", Bell Tel. Labs., Technical Memorandum MM 68-5316-14, Sept. 1968.

3. "Some Explicit Formulas Relating Hybrid Active Filter Attenuation Tolerances with Element Tolerances", Bell Tel. Labs., Technical Memorandum MM 68-5316-15, Sept. 1968.

h. Participation in Organizing Conferences

- International Scientific Committee for 1978 European Conference on Circuit Theory and Design (ECCTD 78), Lausanne, Switzerland.

- Committee for Student Activities at First Melecon International Conference, Tel-Aviv, Israel, 1981. (Chairman)

- International Scientific Committee for 1981 European Conference on Circuit Theory and Design (ECCTD 81), The Hague, Netherlands.

- Organizing Committee and Coordinator of Technical Program Committee for 13th IEEE Convention in Israel, Tel-Aviv, 1983.

- International Scientific Committee for 1983 European Conference on Circuit Theory and Design (ECCTD 83), Stuttgart, F.R. Germany.

- International Scientific Committee for 1987 European Conference on Circuit Theory and Design (ECCTD 87), Paris, France.

- Technical Program Committee, IEEE International Symposium on Circuits and Systems (ISCAS 87) Philadelphia, U.S.A, May, 1987.

- IEEE 15th Conference of Electrical and Electronics Engineers, Tel-Aviv, Israel, April 7-9, 1987. (Chairman of the Conference)

- Technical Program Committee, IEEE International Symposium on Circuits and Systems (ISCAS 88), Espoo, Finland, June 1988.

- International Publicity Committee, IEEE International Symposium on Circuits and Systems (ISCAS 89), Portland, Oregon, U.S.A., May 1989.

- Steering Committee and Technical Program Committee, IEEE International Conference on Control and Applications (ICCON), Jerusalem, Israel, April 3-6, 1989.

- IEEE 17th Convention of Electrical and Electronics Engineers, Tel-Aviv, Israel, May 5-6, 1991. (Chairman of the Convention).

- International Publicity Committee, IEEE International Symposium on Circuits and Systems (ISCAS 92), San-Diego, California, May 10-13, 1992.

- International Scientific Committee for 1993 European Conference on Circuit Theory and Design (ECCTD 93), Davos, Switzerland, Aug. 30-Sept. 3, 1993.

- International Program Committee (IPC) of The IFAC Workshop on Linear Time Delay Systems, Grenoble, France, 6-7 July 1998.

- International Program Committee (IPC) of The 7th IEEE Mediterranean Conference on Control and Automation, Haifa, Israel, June 28-30, 1999.

- International Program Committee (IPC) of The 8th IEEE Mediterranean Conference on Control and Automation, Patras, Greece, July 17–19, 2000.

- Chairman of Sessions in a large number of conferences (do not keep record).