CURRICULUM VITAE

Name: Fai Ma

Address: Department of Mechanical Engineering
University of California
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Citizenship: United States, naturalized in 1988

Education

B.S., University of Hong Kong, Pokfulam Road, Hong Kong, 1977
M.S., Engineering Science, California Institute of Technology, Pasadena, California, 1981
Ph.D., Applied Mathematics, California Institute of Technology, Pasadena, California, 1981

Professional Experience

Senior Research Engineer, Weidlinger Associates, Menlo Park, California, 1981-82
Research Staff Member, IBM Thomas J. Watson Research Center, Yorktown Heights, New York, 1982-83
Senior Engineer, Standard Oil Company, Cleveland, Ohio, 1983-86
Professor of Applied Mechanics, Department of Mechanical Engineering, University of California at Berkeley, 1986-present; Assistant Professor, 1986-90; Associate Professor, 1990-94; Member, UC Forest Products Laboratory, 1997-2004; Pacific Earthquake Engineering Research Center, 1997-present

Other Appointments

Instructor in Mathematics, Caritas Educational Institute, Hong Kong, 1977
Engineer, Jet Propulsion Laboratory, Pasadena, California, 1979
Visiting Scholar, Oxford University, England, 1992; University of Stuttgart, Germany, 1993
Visiting Professor, Technical University of Hamburg-Harburg, Germany, 2002; Florida Atlantic University, 2005; North University of China, 2006; Harbin Institute of Technology, China, 2007

Fields of Specialization

Dynamical Systems with Inherent Uncertainties, Vibration, Damping and Hysteresis

Awards and Honors

Scholarship for graduate study, California Institute of Technology, 1978-81
IBM Postdoctoral and Junior Faculty Research Fellowship (renamed Herman Goldstine Fellowship) in Mathematical Sciences, 1982
Presidential Young Investigator Award, National Science Foundation, 1987
Young Investigator Research Award, Digital Equipment Corporation, 1987
Faculty Research Grant, Berkeley Engineering Fund, 1989
Collacott Prize, Institution of Diagnostic Engineers, United Kingdom, 1991

Alexander von Humboldt Fellowship, Germany, 1992
Certificates of Appreciation, American Society of Mechanical Engineers, 1998 and 2000, for service as Secretary (1993-95), Vice-Chairman (1995-97), and Chairman (1997-2001) of ASME CIE Computational Technologies Committee
Fulbright Senior Scholar Award for Germany, 2002
Best Paper Award, ASME Computers and Information in Engineering Conference, 2003
Charles E. Schmidt Distinguished Visiting Professor, Florida Atlantic University, 2005

Research and Development

Generalized the method of modal analysis to decouple any linear system in real space (solution of the diagonalization problem), with applications to design and optimization
Demonstrated theoretically for the first time that surface roughness plays a dominant role in retaining a film on a rotating surface against centrifugation, with applications to spin coating
Constructed exact solutions to a class of nonlinear stochastic systems
Author or co-author of more than 180 technical publications; supervised 13 doctoral and 23 masters projects
Contributing author, *Probabilistic Analysis and Related Topics,* Vol. 3, Academic Press, New York, 1983

Patent

F. Ma, M. Morzfeld and A. Imam, *Decoupling of Linear Dynamical Systems*, U.S. Patent No. 8,321,189, November 27, 2012

Professional Society

Fellow, American Society of Mechanical Engineers, 1999-present; Member, 1985-99

Editorship

Member, Editorial Board, *International Journal of Nonlinear Mechanics*, 1997-2002
Member, Editorial Board, *International Journal of Modelling and Simulation*, 1999-2005
Member, Editorial Board, *International Journal of Computers and Applications*, 2004-09
Member, Editorial Board, *Journal of Vibration Measurement and Control*, 2009-14
Member, Editorial Board, *Uncertainties in Engineering Mechanics*, 2009-present
Member, Editorial Board, *International Journal of Modelling, Identification and Control*, 2016-present
Series Editor, *Advances in Engineering*, Swets & Zeitlinger, The Netherlands, 1995-2003; co-edited 6 research monographs

Committees

Member, Technical Program Committee, IEEE Prognostics and System Health Management Conference, Zhangjiajie, China, August 24-27, 2014
Member, International Program Committee, 34*th* IASTED International Conference on Modelling, Identification and Control, Innsbruck, Austria, February 16-17, 2015
Publicity Chair, International Conference on Sensing, Diagnostics, Prognostics, and Control, Shanghai, China, August 16-18, 2017
Member, Assembly Representation of the Berkeley Academic Senate, 2017-18
External Examiner in Mechanical Engineering, University of Hong Kong, 2007-10

Member, Board of Advisors, Center for Structures in Extreme Environments, Rutgers University, New Jersey, 2009-present

List of Publications

Section I. Journal and Monograph Papers

1. F. Ma and T. K. Caughey, On the stability of linear and nonlinear stochastic transformations, *International Journal of Control* **34**(3), 501-511 (1981).

2. F. Ma and T. K. Caughey, On the stability of stochastic difference systems, *International Journal of Nonlinear Mechanics* **16**(2), 139-153 (1981).

3. F. Ma and T. K. Caughey, Stability of stochastic difference systems, *Mechanics Research Communications* **8**(2), 105-113 (1981).

4. F. Ma and T. K. Caughey, Moment stability of linear stochastic difference systems, *Mechanics Research Communications* **8**(3), 143-151 (1981).

5. T. K. Caughey and F. Ma, The steady-state response of a class of dynamical systems to stochastic excitation, *ASME Journal of Applied Mechanics* **49**(3), 629-632 (1982).

6. F. Ma and T. K. Caughey, Mean stability of stochastic difference systems, *International Journal of Nonlinear Mechanics* **17**(2), 69-84 (1982).

7. T. K. Caughey and F. Ma, The exact steady-state solution of a class of nonlinear stochastic systems, *International Journal of Nonlinear Mechanics* **17**(3), 137-142 (1982).

8. F. Ma, On the solution of some mathematical problems by embedded engineering models, *Mechanics Research Communications* **9**(3), 171-178 (1982).

9. F. Ma, F. S. Wong and T. K. Caughey, On the Monte Carlo methodology for cumulative damage, *Computers and Structures* **17**(2), 177-181 (1983).

10. F. Ma, Stability theory of stochastic difference systems, in *Probabilistic Analysis and Related Topics*, A. T. Bharucha-Reid, ed., Academic Press, New York **3**, 127-160 (1983).

11. G. Seroussi and F. Ma, On the arithmetic complexity of matrix Kronecker powers, *Information Processing Letters* **17**(3), 145-148 (1983).

12. F. Ma and M. S. Wei, On the synthesis of porous random fields for groundwater flow, *Computer-Aided Engineering* ASME-PVP **98-5**, 237-242 (1985).

13. F. Ma, On estimating the mean and variance of linear dynamical systems with colored state-dependent noise, *Mechanics Research Communications* **12**(2), 65-73 (1985).

14. F. Ma, Approximate analysis of a class of linear stochastic systems with colored noise

parameters, *International Journal of Engineering Science* **24**(1), 19-34 (1986).

15. F. Ma and M. S. Wei, On the synthesis of two-phase flow in random media, *Mechanics Research Communications* **13**(5), 285-292 (1986).

16. F. Ma, Extension of second moment analysis to vector-valued and matrix-valued functions, *International Journal of Nonlinear Mechanics* **22**(3), 251-260 (1987).

17. F. Ma, M. S. Wei and W. H. Mills, Correlation structuring and the statistical analysis of steady-state groundwater flow, *SIAM Journal on Scientific and Statistical Computing* **8**(5), 848-867 (1987).

18. P. M. Bouton and F. Ma, On spatial dependence in Monte Carlo simulations of random fields, *International Journal of Modelling and Simulation* **8**(3), 94-97 (1988).

19. F. Ma, On the significance of spatial randomness in flow through porous media, *Computational Probabilistic Methods* ASME-AMD **93**, 61-66 (1988).

20. S. M. Shahruz and F. Ma, Approximate decoupling of the equations of motion of linear underdamped systems, *ASME Journal of Applied Mechanics* **55**(3), 716-720 (1988).

21. J. H. Hwang and F. Ma, On the flow of a thin liquid film over a rough rotating disk, *Journal of Applied Physics* **66**(1), 388-394 (1989).

22. F. Ma and J. H. Hwang, Stochastic simulation of the flow of a thin liquid film over a rough rotating disk, *Journal of Applied Physics* **66**(10), 5026-5033 (1989).

23. S. M. Shahruz and F. Ma, On symmetrizability of asymmetric nonconservative systems, *ASME Journal of Applied Mechanics* **56**(2), 474-476 (1989).

24. S. M. Shahruz and F. Ma, Closure to discussion of "approximate decoupling of the equations of motion of linear underdamped systems," *ASME Journal of Applied Mechanics* **56**(3), 731 (1989).

25. F. Ma and M. S. Wei, On stochastic simulation of linear two-phase flow in heterogeneous media, in *Computational Mechanics of Probabilistic and Reliability Analysis*, W. K. Liu and T. Belytschko, eds., Elmepress International, Lausanne, Switzerland, 585-607 (1989).

26. F. Ma and J. H. Hwang, Stochastic simulation of lubricant depletion on a magnetic storage disk, *Computational Experiments* ASME-PVP **176**, 89-92 (1989).

27. F. Ma and J. H. Hwang, The effect of air shear on the flow of a thin liquid film over a rough rotating disk, *Journal of Applied Physics* **68**(3), 1265-1271 (1990).

28. P. M. Bouton and F. Ma, On Monte Carlo simulations of dynamic systems, *Simulation* **54**(6), 267-273 (1990).

29. F. Ma and J. H. Hwang, Surface roughness and lubricant depletion on a magnetic storage disk, *ASME Journal of Tribology* **112**(1), 165-168 (1990).

30. F. Ma and M. S. Wei, Monte Carlo simulation of linear two-phase flow in heterogeneous media, *SIAM Journal on Scientific and Statistical Computing* **11**(6), 1053-1072 (1990).

31. S. M. Shahruz and F. Ma, Symmetrizability of asymmetric systems, *Journal of Mathematical Analysis and Applications* **148**(1), 175-190 (1990).

32. J. H. Hwang and F. Ma, On the depletion of a thin liquid film over a rough rotating disk, *Mechanics Research Communications* **17**(6), 423-428 (1990).

33. S. Kim, J. S. Kim and F. Ma, On the flow of a thin liquid film over a rotating disk, *Journal of Applied Physics* **69**(4), 2593-2601 (1991).

34. F. Ma, Lubrication: magnetic storage disks, *Diagnostic Engineering* **58**, 1318-1319 (1991).

35. S. Park, I. W. Park and F. Ma, Decoupling approximation of nonclassically damped structures, *AIAA Journal* **30**(9), 2348-2351 (1992).

36. F. Ma, Flow of a thin liquid film over a rough rotating disk, in *Nonlinear Stochastic Mechanics*, N. Bellomo and F. Casciati, eds., Springer-Verlag, Berlin, Germany, 367-378 (1992).

37. I. W. Park, J. S. Kim and F. Ma, On modal coupling in non-classically damped linear systems, *Mechanics Research Communications* **19**(5), 407-413 (1992).

38. J. S. Kim, S. Kim and F. Ma, Topographic effect of surface roughness on thin-film flow, *Journal of Applied Physics* **73**(1), 422-428 (1993).

39. F. Ma and S. Kim, Effect of disk topography on the flying height of a slider, *Journal of Applied Physics* **73**(11), 7921-7928 (1993).

40. T. K. Caughey and F. Ma, Complex modes and solvability of nonclassical linear systems, *ASME Journal of Applied Mechanics* **60**(1), 26-28 (1993).

41. J. H. Hwang and F. Ma, On the approximate solution of nonclassically damped linear systems, *ASME Journal of Applied Mechanics* **60**(3), 695-701 (1993).

42. F. Ma, Sputtering, *Magill's Survey of Science: Applied Science Series*, Salem Press, Pasadena, California **5**, 2452-2458 (1993).

43. T. K. Caughey and F. Ma, Closure to discussion of "complex modes and solvability of nonclassical linear systems," *ASME Journal of Applied Mechanics* **60**(4), 1061 (1993).

44. I. W. Park, J. S. Kim and F. Ma, Characteristics of modal coupling in nonclassically damped systems under harmonic excitation, *ASME Journal of Applied Mechanics* **61**(1), 77-83 (1994).

45. J. H. Hwang and F. Ma, Closure to discussion of "on the approximate solution of nonclassically damped linear systems," *ASME Journal of Applied Mechanics* **61**(2), 501-502 (1994).

46. F. Ma, Flow of a thin film over a rough rotating disk, *Probabilistic Engineering Mechanics* **9**(1-2), 39-45 (1994).

47. I. W. Park, J. S. Kim and F. Ma, Closure to discussion of "characteristics of modal coupling in nonclassically damped systems under harmonic excitation," *ASME Journal of Applied Mechanics* **61**(3), 747-748 (1994).

48. F. Ma and J. H. Hwang, Monte Carlo simulation of lubricant depletion on a magnetic storage disk, *International Journal of Modelling and Simulation* **14**(4), 151-154 (1994).

49. F. Ma and T. K. Caughey, Analysis of linear nonconservative vibrations, *ASME Journal of Applied Mechanics* **62**(3), 685-691 (1995).

50. F. Ma, Analysis of the equations of motion of linearized controlled structures, *Proceedings in Engineering Sciences of the Indian Academy of Sciences* **20**(2-4), 709-719 (1995).

51. F. Ma and W. C. Lee, On the equations of nonlinear vibrations, *International Journal of Nonlinear Mechanics* **31**(6), 907-913 (1996).

52. W. C. Lee and F. Ma, Simultaneous triangularization of the coefficients of linear systems, *ASME Journal of Applied Mechanics* **64**(2), 430-432 (1997).

53. F. Ma, Wood and timber, *Natural Resources*, M. S. Coyne and C. W. Allin, eds., Salem Press, Pasadena, California **3**, 903-908 (1998).

54. F. Ma, Vibration, *Magill's Survey of Science: Physical Science Series Supplement*, F. N. Magill and T. A. Tombrello, eds., Salem Press, Pasadena, California **7**, 3156-3163 (1998).

55. F. Ma, Noise pollution, *Encyclopedia of Environmental Issues*, C. W. Allin, ed., Salem Press, Pasadena, California **2**, 504-506 (2000).

56. H. Zhang, P. Paevere, Y. Yang, G. C. Foliente and F. Ma, System identification of hysteretic structures, in *Nonlinearity and Stochastic Structural Dynamics*, S. Narayanan and R. N. Iyengar, eds., Kluwer, Dordrecht, The Netherlands, 289-306 (2001).

57. F. Ma, Linear damping matrix methods, in *Encyclopedia of Vibration*, S. Braun, D. Ewins and S. S. Rao, eds., Academic Press, San Diego, California **2**, 721-726 (2002).

58. H. Zhang, G. C. Foliente, Y. Yang and F. Ma, Parameter identification of inelastic structures under dynamic loads, *Earthquake Engineering and Structural Dynamics* **31**(5), 1113-1130 (2002).

59. Y. Yang and F. Ma, Constrained Kalman filter for nonlinear structural identification, *Journal of Vibration and Control* **9**(12), 1343-1357 (2003).

60. F. Ma, H. Zhang, A. Bockstedte, G. C. Foliente and P. Paevere, On parameter analysis of the differential model of hysteresis, in *Nonlinear Stochastic Dynamics*, N. Sri Namachchivaya and Y. K. Lin, eds., Kluwer, Dordrecht, The Netherlands, 257-268 (2003).

61. F. Ma and C. H. Ng, On the orthogonality of natural modes of vibration, *Mechanics Research Communications* **31**(3), 295-299 (2004).

62. F. Ma, H. Zhang, A. Bockstedte, G. C. Foliente and P. Paevere, Parameter analysis of the differential model of hysteresis, *ASME Journal of Applied Mechanics* **71**(3), 342-349 (2004).

63. F. Ma, C. H. Ng and N. Ajavakom, On system identification and response prediction of degrading structures, *Structural Control and Health Monitoring* **13**(1), 347-364 (2006).

64. J. Liu, J. Tang, Y. Shi and F. Ma, The design and testing of the single-chip integration accelerometer gyroscope, *WSEAS Transactions on Circuits and Systems* **5**(5), 742-747 (2006).

65. J. W. Zhu, D. W. Yang and F. Ma, Investigation of a new design for zirconia dental implants, *Journal of Medical Colleges of PLA* **22**(5), 303-311 (2007).

66. N. Ajavakom, C. H. Ng and F. Ma, Performance of nonlinear degrading structures: identification, validation, and prediction, *Computers and Structures* **86**(7-8), 652-662 (2008).

67. M. Morzfeld, F. Ma and N. Ajavakom, On the decoupling approximation in damped linear systems, *Journal of Vibration and Control* **14**(12), 1869-1884 (2008).

68. M. Morzfeld, N. Ajavakom and F. Ma, A remark about the decoupling approximation of damped linear systems, *Mechanics Research Communications* **35**(7), 439-446 (2008).

69. M. Morzfeld, N. Ajavakom and F. Ma, Diagonal dominance of damping and the decoupling approximation in linear vibratory systems, *Journal of Sound and Vibration* **320**(1-2), 406-420 (2009).

70. F. Ma, A. Imam and M. Morzfeld, The decoupling of damped linear systems in oscillatory free vibration, *Journal of Sound and Vibration* **324**(1-2), 408-428 (2009).

71. F. Ma, M. Morzfeld and A. Imam, The decoupling of damped linear systems in free or forced vibration, *Journal of Sound and Vibration* **329**(15), 3182-3202 (2010).

72. J. W. Zhu, D. W. Yang and F. Ma, Feasibility study of a partially hollow configuration for zirconia dental implants, *Journal of Oral and Maxillofacial Surgery* **68**(2), 399-406 (2010).

73. J. W. Zhu, D. W. Yang and F. Ma, Closure to discussion of "feasibility study of a partially hollow configuration for zirconia dental implants," *Journal of Oral and Maxillofacial Surgery* **68**(8), 2034 (2010).

74. J. Liu, W. Wang and F. Ma, A regularized auxiliary particle filtering approach for system state estimation and battery life prediction, *Smart Materials and Structures* **20**(7), 075021, 9 pp. (2011).

75. M. Morzfeld and F. Ma, The decoupling of damped linear systems in configuration and state spaces, *Journal of Sound and Vibration* **330**(2), 155-161 (2011).

76. C. Hu, F. Ma, X. R. Ma and W. H. Huang, Refined dynamic equations of plate bending without any assumptions (in Chinese), *Scientia Sinica Physica, Mechanica & Astronomica* **41**(6), 781-790 (2011).

77. M. Morzfeld, F. Ma and B. N. Parlett, The transformation of second-order linear systems into independent equations, *SIAM Journal on Applied Mathematics* **71**(4), 1026-1043 (2011).

78. D. T. Kawano, M. Morzfeld and F. Ma, The decoupling of defective linear dynamical systems in free motion, *Journal of Sound and Vibration* **330**(21), 5165-5183 (2011).

79. F. Ma and M. Morzfeld, A general methodology for decoupling damped linear systems, *Procedia Engineering* **14**, 2498-2502 (2011).

80. J. Liu, W. Wang and F. Ma, Bearing system health condition monitoring using a wavelet cross-spectrum analysis technique, *Journal of Vibration and Control* **18**(7), 953-963 (2012).

81. C. Hu, F. Ma, X. R. Ma and W. H. Huang, Refined dynamic theory of thick plates in extension-bending and its new formalism (in Chinese), *Scientia Sinica Physica, Mechanica & Astronomica* **42**(5), 522-530 (2012).

82. J. Liu, W. Wang, F. Ma, Y. B. Yang and C. S. Yang, A data-model-fusion prognostic framework for dynamic system state forecasting, *Engineering Applications of Artificial Intelligence* **25**(4), 814-823 (2012).

83. C. Hu, C. Zhou, F. Ma and D. Liu, Dynamic stress concentrations by using refined equations of plate bending (in Chinese), *Chinese Journal of Theoretical and Applied Mechanics* **44**(5), 938-942 (2012).

84. M. Morzfeld, D. T. Kawano and F. Ma, Characterization of damped linear dynamical systems in free motion, *Numerical Algebra, Control and Optimization* **3**(1), 49-62 (2013).

85. D. T. Kawano, M. Morzfeld and F. Ma, The decoupling of second-order linear systems with

a singular mass matrix, *Journal of Sound and Vibration* **332**(25), 6829-6846 (2013).

86. R. H. Huan, W. Q. Zhu, F. Ma and Z. H. Liu, The effect of high-frequency parametric excitation on a stochastically driven pantograph-catenary system, *Shock and Vibration* **2014**, 792673, 8 pp. (2014).

87. R. H. Huan, W. Q. Zhu, F. Ma and Z. G. Ying, Vertical dynamics of a pantograph carbon-strip suspension under stochastic contact-force excitation, *Nonlinear Dynamics* **76**(1), 765-776 (2014).

88. C. Zhou, C. Hu, F. Ma and D. Liu, Elastic wave scattering and dynamic stress concentrations in exponential graded materials with two elliptic holes, *Wave Motion* **51**(3), 466-475 (2014).

89. C. Zhou, C. Hu, F. Ma and D. Liu, Dynamic stress concentrations in thick plates with two holes based on refined theory, *Applied Mathematica and Mechanics* **35**(12), 1591-1606 (2014).

90. R. H. Huan, W. Q. Zhu, F. Ma and Z. G. Ying, Stationary response of a class of nonlinear stochastic systems undergoing Markovian jumps, *ASME Journal of Applied Mechanics* **82**(5), 051008, 6 pp. (2015).

91. C. H. Ng, N. Ajavakom and F. Ma, Seismic response prediction of degrading structures, *Encyclopedia of Earthquake Engineering*, M. Beer, I. A. Kougioumtzoglou, E. Patelli and I. S.-K. Au, eds., Springer, Berlin, Germany, 2989-3004 (2015).

92. C. Hu, R. H. Zheng, Q. Wang, G. Q. Tong and F. Ma, Non-classical dynamical equations of thick plates with complete thermomechanical coupling (in Chinese), *Scientia Sinica Physica, Mechanica & Astronomica* **46**(3), 034601, 11 pp. (2016).

93. R. H. Huan, W. Q. Zhu, F. Ma and Z. G. Ying, Asymptotic stability of a class of nonlinear stochastic systems undergoing Markovian jumps, *Probabilistic Engineering Mechanics* **45**, 13-21 (2016).

94. C. Hu, H. Hu, X. Zhang and F. Ma, Refined theory for vibration of thick plates with lateral and tangential loads, *Archive of Applied Mechanics* (*Ingenieur-Archiv*) **87**(3), 439-455 (2017).

95. R. G. Salsa, D. T. Kawano, F. Ma and G. Leitmann, The inverse problem of linear Lagrangian dynamics, *ASME Journal of Applied Mechanics* **85**(3), 031002, 10 pp. (2018).

96. D. T. Kawano, R. G. Salsa, F. Ma and M. Morzfeld, A canonical form of the equation of motion of linear dynamical systems, *Proceedings of the Royal Society of London A* **474**, 20170809, 14 pp. (2018).

97. X. Li, J. Gu, W. Xu and F. Ma, Stochastic stability of viscoelastic systems under Gaussian and Poisson white noise excitations, *Nonlinear Dynamics*, accepted for publication.

98. D. T. Kawano, R. G. Salsa and F. Ma, Decoupling of second-order linear systems by isospectral transformation, *ZAMP* (*Journal of Applied Mathematics and Physics*), submitted for publication.

Section II. Conference Proceedings and Industrial Reports

1. G. L. Wojcik, J. Isenberg, F. Ma and E. Richardson, Research into surface wave phenomena in sedimentary basins, Final Report for Air Force Office of Scientific Research, Contract No. F49620-80-C-0009, 105 pp. (1981).

2. F. Ma, On the geometry of wave propagation in a wedge, Report No. 8267, Weidlinger Associates, 17 pp. (1982).

3. G. Seroussi and F. Ma, On the arithmetic complexity of matrix Kronecker powers, Report No. RC 9778, IBM Research Division, 10 pp. (1982).

4. F. Ma, Approximate analysis of linear stochastic systems with colored multiplicative noise, Report No. SPC/WPRL/8, Standard Oil Company, 36 pp. (1984).

5. F. Ma, Extension of second moment analysis to vector-valued and matrix-valued functions, Report No. SPC/WPRL/15, Standard Oil Company, 25 pp. (1984).

6. F. Ma, M. S. Wei and W. H. Mills, Correlation structuring and the statistical analysis of steady-state groundwater flow, Report No. SPC/WPRL/66, Standard Oil Company, 56 pp. (1985).

7. F. Ma and M. S. Wei, Stochastic interpretation of linear corefloods, Report No. RE18FMl, Standard Oil Company, 49 pp. (1985).

8. M. S. Wei and F. Ma, Computer programs for the stochastic analysis of flow through porous media: user's guide, Report No. SPC/WPRL/91, Standard Oil Company, 75 pp. (1985).

9. F. Ma and M. S. Wei, Stochastic analysis of linear two-phase systems with capillarity, *10th U.S. National Congress of Applied Mechanics*, Austin, Texas, 16 pp. (1986).

10. F. Ma, Stochastic simulation of two-phase dynamical systems, *1st World Congress on Computational Mechanics*, Austin, Texas, 11 pp. (1986).

11. F. Ma, Stochastic stability of discretized large-scale structures, *ASCE 6th Engineering Mechanics Specialty Conference*, Buffalo, New York, 15 pp. (1987).

12. F. Ma, Correlation structuring and output variability in stochastic simulations, *ASCE 6th Engineering Mechanics Specialty Conference*, Buffalo, New York, 3 pp. (1987).

13. P. M. Bouton and F. Ma, On spatial dependence in Monte Carlo simulations of random fields, *Proceedings of 1987 IASTED International Symposium on Applied Identification, Modelling*

and Simulation, New Orleans, Louisiana, 159-162 (1987).

14. F. Ma, Stochastic simulation of viscous flow over a rough rotating disk, *Proceedings of 1988 ASME Computers in Engineering Conference*, San Francisco, California **3**, 647-648 (1988).

15. F. Ma and P. M. Bouton, Monte Carlo simulation of flow through porous media, *Proceedings of International Conference on Computational Engineering Science*, Atlanta, Georgia **2**, 2 pp. (1988).

16. F. Ma, P. M. Bouton, J. H. Hwang and S. S. Lee, Stochastic simulation of viscous flow over a rough rotating disk, Report for IBM General Products Division, Grant No. 707412, 36 pp. (1988).

17. S. M. Shahruz, F. Ma and A. R. Crockett, Approximation for decoupling the equations of motion of nonclassically damped systems, *Proceedings of AIAA/ASME/ASCE/AHS/ASC 30th Structures, Structural Dynamics and Materials Conference*, Mobile, Alabama, 763-768 (1989).

18. F. Ma and J. H. Hwang, On decoupling the equations of motion of nonclassically damped systems, *Proceedings of 34th International Gas Turbine and Aeroengine Congress*, Toronto, Canada, 89-GT-123, 6 pp. (1989).

19. S. M. Shahruz and F. Ma, Approximate decoupling of the equations of motion of large flexible structures, *Proceedings of 1989 American Control Conference*, Pittsburgh, Pennsylvania **2**, 1640-1641 (1989).

20. F. Ma and J. H. Hwang, Monte Carlo simulation of lubricant depletion on a magnetic storage disk, *Proceedings of 1989 IASTED International Symposium on Applied Simulation and Modelling*, Santa Barbara, California, 134-137 (1989).

21. J. H. Hwang and F. Ma, On approximate solution of the equations of motion of nonclassically damped systems, *Proceedings of 21st Midwestern Mechanics Conference*, Houghton, Michigan, 405-406 (1989).

22. F. Ma, Stochastic simulation of viscous flow over a rough rotating disk II, Report for IBM General Products Division, Grant No. 707412, 88 pp. (1989).

23. F. Ma, Flow of a thin liquid film over a rough rotating disk, *11th U.S. National Congress of Applied Mechanics*, Tucson, Arizona, 13 pp. (1990).

24. F. Ma and J. H. Hwang, Monte Carlo simulation of the flow of a thin liquid film over a rough rotating disk, *Proceedings of 1990 ASME Computers in Engineering Conference*, Boston, Massachusetts **2**, 115-119 (1990).

25. F. Ma, Stochastic simulation of viscous flow over a rough rotating disk III, Final Report for IBM General Products Division, Grant No. 707412, 43 pp. (1990).

26. F. Ma, On the flow of a thin liquid film over a rotating disk, *1st U.S. National Congress of Computational Mechanics*, Chicago, Illinois, 4 pp. (1991).

27. F. Ma and J. H. Hwang, Approximate solution of nonclassically damped systems, *Proceedings of 1991 ASME Computers in Engineering Conference*, Santa Clara, California **2**, 205-209 (1991).

28. F. Ma, I. W. Park and J. S. Kim, Characterization of modal coupling in nonclassically damped systems, *Proceedings of 1992 ASME Computers in Engineering Conference*, San Francisco, California **2**, 11-14 (1992).

29. F. Ma, Analysis of linear vibrations in Lagrangian space, Report No. IB-25, Institute B of Mechanics, University of Stuttgart (ISBN 3-927618-17-9), 26 pp. (1993).

30. T. K. Caughey and F. Ma, Complex modes and solvability of nonclassical linear systems, *Proceedings of 1993 ASME Computers in Engineering Conference*, San Diego, California, 9-11 (1993).

31. F. Ma, Dynamical systems with inherent uncertainties, Final Report for National Science Foundation, Grant No. MSS-8657619, 6 pp. (1994).

32. F. Ma, Analysis of linear nonconservative vibrations, *Proceedings of 1994 ASME Computers in Engineering Conference*, Minneapolis, Minnesota **2**, 649-654 (1994).

33. F. Ma and W. C. Lee, Generalization of the classical method of complex modes, *Proceedings of 1995 ASME Computers in Engineering Conference*, Boston, Massachusetts, 255-258 (1995).

34. W. C. Lee and F. Ma, Stability of random difference systems, *Proceedings of 1995 ASME Design Engineering Technical Conferences*, Boston, Massachusetts **3-A**, 893-896 (1995).

35. F. Ma and W. C. Lee, Analysis of the equations of linear controlled structures, *Proceedings of 1995 ASME Design Engineering Technical Conferences*, Boston, Massachusetts **3-C**, 879-884 (1995).

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