

References & Suggested Additional Reading

- [1] T. E. Alberts, H. Xia and Y. Chen 1992, "Dynamic analysis to evaluate viscoelastic passive damping augmentation for Space Shuttle Remote Manipulator System", *Trans. ASME, Jou. of Dynamic Systems, Measurement, and Control*, Vol. 114, pp. 468-475.
- [2] E. M. Bakr and A. A. Shabana 1986, "Geometrically non-linear analysis of multi-body systems", *Computer and Structures*, Vol. 23, pp. 739-751.
- [3] E. Bayo 1987, "A finite element approach to control the end point of a single link flexible robot", *Jou. of Robotic Systems*, Vol. 4, pp. 63-75.
- [4] W. J. Book 1984, "Recursive Lagrangian dynamics of flexible manipulator arms", *The Int. Jou. of Robotics Research*, Vol. 3, pp. 87-101.
- [5] R. H. Cannon and E. Schmitz 1984, "Initial experiments on end-point control of flexible one-link robot", *The Int. Jou. of Robotics Research*, Vol. 3, pp. 62-75.
- [6] S. Cetinkunt and W. -L. Yu 1991, "Closed-loop behavior of a feedback-controlled flexible arm: A comparative study", *The Int. Jou. of Robotics Research*, Vol. 10, pp. 263-275.
- [7] M. Chandra Shaker and A. Ghosal 2006, "Nonlinear modeling of flexible manipulators using non-dimensional variables", *ASME Trans., Jou. of Nonlinear and Computational Dynamics*, Vol. 1, pp. 123-134.
- [8] P. Chedmail, Y. Aoustin, Ch. Chevallereau 1991, "Modelling and control of flexible robots", *Int. Jou. of Numerical Methods in Engineering*, Vol. 32, pp. 1595-1619.
- [9] G. Chen, M. C. Delfour, A. M. Krall and G. Payre 1987, "Modeling, stabilization and control of serially connected beams", *SIAM Journal of Control and Optimization*, Vol. 25, pp. 526-546.
- [10] A. De Luca and B. Siciliano 1991, "Closed-form dynamic model of a planar multi-link lightweight robots", *IEEE Trans. on Systems, Man and Cybernetics*, Vol. SMC-21, pp. 826-839.

- [11] A. De Luca and B. Siciliano 1993, "Regulation of flexible arms under gravity", *IEEE Trans. on Robotics and Automation*, Vol. RA-9, pp. 463-467.
- [12] C. Fuller, S. Elliott and P. Nelson 1996, *Active Control of Vibration*, Academic Press.
- [13] F. L. Hu and A. G. Ulsoy 1994, "Dynamic modeling of constrained flexible robot arms for controller design", *Trans. of ASME, Jou. of Dynamic Systems, Measurement, and Control*, Vol. 116, pp. 56-65.
- [14] D. J. Inman 1989, *Vibration: With Control, Measurement and Stability*, Prentice Hall.
- [15] A. Isidori 1989, *Nonlinear Control Systems: An Introduction*, 2nd Ed., Springer-Verlag.
- [16] J. B. Jonker 1990, "A finite element dynamic analysis of flexible manipulators", *The Int. Jou. of Robotics Research*, Vol. 9, pp. 59-74
- [17] T. R. Kane, R. R. Ryan and A. K. Banerjee 1987, "Dynamics of a cantilever beam attached to a moving base", *AIAA Jou. of Guidance and Control*, Vol. 10, pp. 139-151.
- [18] F. Khorrami, S. Jain and A. Tzes 1994, "Experiments on rigid-body-based controllers with input preshaping for a two link flexible manipulator", *IEEE Trans. on Robotics and Automation*, Vol. RA-10, pp. 55-65.
- [19] F. Khorrami, S. Jain and A. Tzes 1995, "Experimental results on adaptive nonlinear control and input preshaping for multi-link flexible manipulators", *Automatica*, Vol. 31, pp. 83-97.
- [20] J. LaSalle and S. Lefschetz 1961, *Stability by Liapunov's Direct Method with Applications*, Academic Press, New York, USA.
- [21] C. -J. Li and T. S. Sankar 1993, "Systematic methods for efficient modeling and dynamics of flexible robot manipulators", *IEEE Trans. on Systems, man and Cybernetics*, Vol. SMC-23, pp. 79-94.
- [22] R. W. Marino and M. W. Spong 1986, "Nonlinear control techniques for flexible joint manipulators: A single link case study", *Proc. of IEEE Conf. on Robotics and Automation*, San Francisco, pp. 1030-1026.

- [23] F. Matsuno, T. Murachi, and Y. Sakawa 1994, "Feedback control of decoupled bending and torsional vibrations of flexible beams", *Jou. of Robotic Systems*, Vol. 11, pp. 341-353.
- [24] J. Mayo, J. Dominguez and A. A. Shabana 1995, "Geometrically non-linear formulation of beams in flexible multi-body systems", *Jou. Vibration and Acoustics*, Vol. 117, pp. 501-509.
- [25] L. Meirovitch 1967, *Analytical Methods in Vibrations*, Macmillan Co.
- [26] L. Meirovitch 1986, *Elements of Vibration Analysis*, 2nd Ed., McGraw-Hill Book Co.
- [27] Ö. Morgül 1992, "Dynamic boundary control of a Euler-Bernoulli Beam", *IEEE Trans. on Automatic Control*, Vol. AC-37, pp. 639-642.
- [28] C. M. Oakley and R. H. Cannon 1989, "End-point control of a two-link manipulator with a very flexible forearm: Issues and experiments", *Proc. of American Control Conference*, pp. 1381-1388.
- [29] A. Pazy 1983, *Semigroups of Linear Operators and Applications to Partial Differential Equations*, Springer-Verlag.
- [30] J. S. Przemieniecki 1968, *Theory of Matrix Structure Analysis*, McGraw-Hill Book Co.
- [31] S. S. Rao 1990, *Mechanical Vibrations*, 2nd Ed., Addison-Wesley.
- [32] J. C. Simo and L. Vu-Quoc 1987 1987, "The role of nonlinear theories in transient dynamic analysis of flexible structures", *Journal of Sound and Vibrations*, Vol. 119, pp. 487-508.
- [33] N. C. Singer and W. P. Seering 1990, "Preshaping command inputs to reduce system vibration", *Trans. ASME, Jou. of Dynamic Systems, Measurement, and Control*, Vol. 112, pp. 76-82.
- [34] M. W. Spong 1987, "Modeling and control of elastic joint robots", *Trans. ASME, Jou. of Dynamic Systems, Measurement, and Control*, Vol. 109, pp. 310-319.
- [35] M. Stylianou and B. Tabarrok, "Finite element analysis of a axially moving beam, Part 1: Time integration; Part II: Stability analysis", *Jou. of Sound and Vibration*, Vol. 178, pp. 433-481.

- [36] W. H. Sunada and S. Dubowsky 1981, "The application of finite element methods to the dynamic analysis of flexible linkages", *Trans. of ASME, Jou. of Mechanical Design*, Vol. 103, pp. 643-651.
- [37] R. J. Theodore 1995, *Dynamic modeling and control analysis of multi-link flexible manipulators*, Ph. D. Thesis, Dept. of Mechanical Engg., Indian Institute of Science, Bangalore.
- [38] R. J. Theodore and A. Ghosal 1995, "Comparison of the assumed modes and finite elements model for flexible multilink manipulators", *The Int. Jou. of Robotics Research*, Vol. 14, pp. 91-111.
- [39] R. J. Theodore and A. Ghosal 1997, "Modeling of flexible manipulators with prismatic joints", *IEEE Trans. on Systems, Man and Cybernetics - Part B*, Vol. 27, pp. 296-305.
- [40] R. J. Theodore and A. Ghosal 2003, "Robust control of multilink flexible manipulators", *Mechanism and Machine Theory*, Vol. 38, pp. 367-377.
- [41] A. Tzes and S. Yurkovich 1991, "Application and comparison of on-line identification methods for flexible manipulator control", *The Int. Jou. of Robotics Research*, Vol. 10, pp. 515-527.
- [42] P. B. Usoro, R. Nadira and S. S. Mahil 1986, "A finite element/Lagrangian approach to modeling lightweight flexible manipulators", *Trans. of ASME, Jou. of Dynamic Systems, Measurement, and Control*, Vol. 108, pp. 198-205