

MBD References

- Pars, L.. *A Treatise of Analytical Dynamics*. William Heinemann, 1965.
- Hooker, W. W., and Margulies, G., The Dynamical Attitude Equations for an n-Body Satellite. *J. Astronautical Sciences*, vol. 12, no. 4, pp. 123-128, 1965.
- Roberson, R.E., Wittenburg, J., "A Dynamical Formalism for an Arbitray Number of Interconnected Rigid Bodies with Reference to the Problem of Satellite Attitude Control", *Proceedings of the Third International Congress of Automatic Control*, London, 1966.
- Uicker, J. J., Dynamic Force Analysis of Spatial Linkages. *Trans. ASME J. Applied Mechanics*, vol. 34, pp. 418-424, 1967.
- Russell, W.J., On the Formulation of Equations of Rotational Motion for an N-Body Spacecraft. TR-0200 (4133), The Aerospace Corporation, El Segundo, 1969.
- Hooker, W. W., A Set of r Dynamical Attitude Equations for an Arbitrary n-Body Satellite having r Rotational Degrees of Freedom. *AIAA Journal*, vol. 8(2), no. 7, pp. 1205-1207, 1970.
- Baumgarte, J. , Stabilization of Constraints and Integrals of Motion in Dynamical Systems. *Computer Methods in Applied Mechanics and Engineering*, vol. 1, pp. 1-16, 1972.
- Vereshchagin, A. F., Computer Simulation of the Dynamics of Complicated Mechanisms of Robot Manipulators. *Engineering Cybernetics*, no. 6, pp. 65-70, 1974.
- Likins, P.W., Analytical Dynamics and Nonrigid Spacecraft Simulation. JPL Technical Report 32-1593, 1974.
- Likins, P.W., Point-Connected Rigid Bodies in a Topological Tree. *Celestial Mechanics*, Vol. 11, No.3, 301-317. 1975.
- Paul, B., Analytical Dynamics of Mechanisms, "A Computer Oriented Overview. *Mechanism and Machine Theory*", vol. 10, no. 6, pp. 481-507, 1975.
- Wittenburg, J., *Dynamics of Systems of Rigid Bodies*. Stuttgart: B. G. Teubner, 1977.
- Ho, J.Y.L, Direct Path Method for Flexible Multibody Spacecraft Dynamics. *Journal of Spacecraft and Rockets*, Vol. 14, pp. 102-110, 1977.
- Orlandea, N., Chace, M. A., and Calahan, D. A., A Sparsity-Oriented Approach to the Dynamic Analysis and Design of Mechanical Systems|Part1. *Trans. ASME J. Engineering for Industry*, vol. 99, no. 3, pp. 773-779, 1977.
- Bodley, C.S., Devers, A.D., Park, A.C., Frisch, H.P., A Digital Computer Program for the Dynamic Interaction Simulation of Controls and Structures (DISCOS). *NASA Technical Paper*, vol.1, No. 1219, 1978.
- Jerkovsky, W., The Structure of Multibody Dynamics Equations. *Journal of Guidance and Control*, 1(3):173-182, 1978.
- Armstrong, W. W., Recursive Solution to the Equations of Motion of an n-Link Manipulator. *Proc. 5th World Congress on Theory of Machines and Mechanisms*, (Montreal), pp. 1343-1346, July, 1979.
- Walker, M. W., and Orin, D. E., Efficient Dynamic Computer Simulation of Robotic Mechanisms. *Trans. ASME, J. Dynamic Systems, Measurement & Control*, vol. 104, pp. 205-211, 1982.
- R.A. Wehage and E.J. Haug, Generalized coordinate partitioning for dimension reduction in analysis of constrained systems," *ASME J. Mech. Des.*, V. 104, Jan., pp. 247-255, 1982.

Luh, J. Y. S., Walker, M. W., and Paul, R. P. C.. Resolved-Acceleration Control of Mechanical Manipulators. IEEE Trans. Automatic Control, vol. 25, no. 3, pp. 468-474, 1980.

Hollerbach, J. M., A Recursive Lagrangian Formulation of Manipulator Dynamics and a Comparative Study of Dynamics Formulation Complexity. IEEE Trans. Systems, Man, and Cybernetics, vol. SMC-10, no. 11, pp. 730-736, 1980.

Baumgarte, J., A New Method of Stabilization for Holonomic Constraints. *ASME Journal of Applied Mechanics*, 50:869-870, 1983.

Kane, T. and Levinson, D., *Dynamics: Theory and Applications*, McGraw-Hill, 1985.

Tong, M. M., 'A Multibody Dynamics Equation Formulation by Momentum Principle', AAS/AIAA Astrodynamics Specialist Conference, AAS 85-391, August 12-15, 1985.

Lanczos, C., *The Variational Principles of Mechanics*, 4th Edition, Dover Publications, Inc., New York, 1986.

Hughes, P.C., *Spacecraft Attitude Dynamics*. John Wiley & Sons, New York, 1986.

Kim, S.S. and Vanderploeg, M.J., "A General and Efficient Method for Dynamic Analysis of Mechanical Systems Using Velocity Transformations", *ASME Journal of Mechanisms, Transmissions and Automation in Design*, Vol. 108, 176- 182, 1986.

Featherstone, R., *Robot Dynamics Algorithms*, Boston: Kluwer Academic Publishers, 1987.

Rodriguez, G., Kalman Filtering, Smoothing, and Recursive Robot Arm Forward and Inverse Dynamics. IEEE J. Robotics & Automation, vol. RA-3, no. 6, pp. 624-639, 1987.

Woerkom, P.Th.L.M. van, "Translational and rotational dynamics of rigid spacecraft based manipulators", Technical Report TR 87014 U, National Aerospace Laboratory NLR, 1987.

Brandl, H., Johanni, R., and Otter, M., A Very Efficient Algorithm for the Simulation of Robots and Similar Multibody Systems Without Inversion of the Mass Matrix. In *Theory of Robots*, P. Kopacek, I. Troch & K. Desoyer (eds.), Oxford: Pergamon Press, pp. 95-100, 1988.

Lankarani, H.M. and Nikravesh, P.E., "Application of the Canonical Equations of Motion in Problems of Constrained Multibody Systems with Intermittent Motion", *Advances in Design Automation 1988*, DE-Vol. 14, pp. 417-423, edited by S.S. Rao, ASME Press, 1988.

Bae, D. and Haug, E.J., A recursive formulation for constrained mechanical system dynamics: Part III. Parallel processor implementation, *Mech. Struct. & Mach.*, V.16, N. 2, pp. 249-269, 1988.

Greenwood, D. T., *Principles of Dynamics*, Englewood Cliffs, NJ: Prentice-Hall, 1988.

Roberson, R. E., and Schwertassek, R., *Dynamics of Multibody Systems*, Berlin/Heidelberg: Springer-Verlag, 1988.

Haug, E. J., *Computer-Aided Kinematics and Dynamics of Mechanical Systems. Volume I: Basic Methods*. Allyn and Bacon, 1989.

Huston, R. L., *Multibody Dynamics*. Boston: Butterworths, 1990.

Rosenthal, D., An Order n Formulation for Robotic Systems. *The Journal of the Astronautical Sciences*, 38(4):511-529, 1990.

Woerkom, P.Th.L.M. van, Linear recursive formulation of flexible multi-body space systems dynamics.

National Aerospace Laboratory NLR, The Netherlands, NLR TP 90284 U, 1990.

Bae, D., Hwang, R. and Haug, E.J., A recursive formulation for real-time dynamic simulation of mechanical systems, *ASME J. Mech. Des.*, V. 113, pp. 158-166, 1991.

Rodriguez, G., Jain, A., and Kreuz-Delgado, K., A Spatial Operator Algebra for Manipulator Modelling and Control. *Int. J. Robotics Research*, vol. 10, no. 4, pp. 371-381, 1991.

Jain, A., Unified Formulation of Dynamics for Serial Rigid Multibody Systems. *J. Guidance, Control, and Dynamics*, vol. 14, no. 3, pp. 531-542, 1991.

Bayo, E. and Avello, A., Singularity-Free Augmented Lagrangian Algorithms for Constrained Multibody Dynamics. *Nonlinear Dynamics*, 5:209–231, 1994.

J. Wittenburg, *Topological Description of Articulated Systems*, Computer-Aided Analysis of Rigid and Flexible Mechanical Systems, edited by M. Pereira and J. Ambrósio, Kluwer Academic Publishers, pp.159-196, 1994.

Fijany, E., Sharf, I., D'Eleuterio, G., Parallel $O(\log N)$ Algorithms for Computation of Manipulator Forward Dynamics, *IEEE Transactions and Automation*, Vol. 11, No. 3, June 1995.

McMillan, S., and Orin, D. E., Efficient Computation of Articulated-Body Inertias Using Successive Axial Screws. *IEEE Trans. Robotics & Automation*, vol. 11, no. 4, pp. 606-611, 1995.

Park, F. C., Bobrow, J. E., and Ploen, S. R., A Lie Group Formulation of Robot Dynamics. *Int. J. Robotics Research*, vol. 14, no. 6, pp. 609-618, 1995.

Angeles, J., *Fundamentals of Robotic Mechanical Systems*, Second Edition, Springer-Verlag, New York, 1997.

Saha, S.K., Dynamic modeling of serial multi-body systems using the decoupled natural orthogonal complement matrices, *ASME J. Appl. Mech.*, V. 66, N. 4, pp. 986-996, 1999.

Bae, D., Han, J. M. and Yoo, H.H., A generalized recursive formulation for constrained mechanical system dynamics, *Mech. Struct. & Mach.*, V. 27, N. 3, pp. 293-315, 1999.

Lefebvre, D., Naudet, J., Terze, Z., and Daerden, F., Forward dynamics of multibody mechanisms using an efficient algorithm based on canonical momenta. *NATO ASI Workshop on Virtual Nonlinear Multibody Systems*, 1:121–126, 2002.

Anderson, K. and Critchley, J., Order-N Performance Algorithm for the Simulation of Constrained Multi-Rigid-Body Dynamic Systems. *Multibody System Dynamics*, 9:185–212, 2003.

Amirouche, F. M. L., *Fundamentals of Multibody Dynamics: Theory and Applications*, Boston: Birkhauser, 2006.

Tong, M. M., 'Efficient Treatment of Gyroscopic Bodies in the Recursive Solution of Multibody Dynamics Equations', *Journal of Computational and Nonlinear Dynamics*, Vol., 3, No. 4, 2008.

Tong, M. M., 'A Recursive Algorithm for Solving the Generalized Velocities from the Momenta of Flexible Multibody Systems', *Journal of Computational and Nonlinear Dynamics*, Vol. 5/041002-1, 2010.

Tong, M. M., 'Inverse Mass Matrix Factorization Using Momentum Equations of a Rigid Multibody System'. *AAS/AIAA Astrodynamics Specialist Conference*, paper no. 1359569, Minneapolis, Minnesota, 2012.

Tong, M. M., 'Equivalence of Two Order(N) Rate Solutions for MBS with Hamilton's Equations based EOM', *IFTToMM Conference*, paper no. OS11-004, Taipei, Taiwan, October, 2015.

Tong, M. M., 'Closed Form $O(N)$ Acceleration Equation for Rigid Multibody Systems', The 4th Joint International Conference on Multibody System Dynamics, paper no. 102, McGill University, Montreal, Quebec, Canada, May 29-June 2, 2016.