

List of Publications

Doctoral Thesis:

J. Gerstmayr, *A solution strategy for elasto-plastic multibody systems and related problems*, Johannes Kepler University of Linz, May 2001, 124 pages.

Habilitation Thesis:

Absolute coordinate formulations for flexible multibody dynamics systems, Johannes Kepler University of Linz, March 2007, 146 pages.

Book

1. H. Gatttringer and J. Gerstmayr (eds.). *Multibody System Dynamics, Robotics and Control*, Springer, 2012.

Papers in Refereed Journals

1. H. Irschik, U. Pichler, J. Gerstmayr, H.J. Holl, Maysel's formula of thermoelasticity extended to anisotropic materials at finite strain, *International Journal of Solids and Structures*, Vol. 38, pp. 9479 – 9492, 2001.
2. J. Gerstmayr, H.J. Holl, and H. Irschik. Development of plasticity and damage in vibrating structural elements performing guided rigid-body motions, *Archives of Applied Mechanics* (formerly: Ingenieur-Archiv), Vol. 71, pp. 135 – 145, 2001.
3. J. Gerstmayr, H. Irschik. Vibrations of the elasto-plastic pendulum, *International Journal of Nonlinear Mechanics*, Vol. 38, pp. 111 – 122, 2003.
4. J. Gerstmayr. Modelling and simulation of elasto-plastic multibody systems with damage, *Journal of Mechanics Based Design of Structures and Machines*, Vol. 31, No. 2, pp. 201 – 227, 2003.
5. Y. Vetyukov, J. Gerstmayr, H. Irschik. Plastic multipliers as driving variables of numerical simulation in elastoplasticity, *Mechanics Research Communications*, Volume 30, No. 5, pp. 421 – 430, 2003.
6. M. Dibold, J. Gerstmayr, H. Irschik. Biaxial vibrations of an elasto-plastic beam with a prescribed rigid-body rotation including the effect of stiffening, *International Journal of Nonlinear Dynamics*, Vol. 34, pp. 147 – 157, 2003.
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10. Y. Vetyukov, J. Gerstmayr, H. Irschik. The comparative analysis of the fully nonlinear and consistently linearized equations of motion of the 2D elastic pendulum, *Journal of Computers and Structures*, Vol. 82, pp. 863 – 870, 2004.
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12. Y. Vetyukov, J. Gerstmayr, H. Irschik. Modeling spatial motion of 3D deformable multibody systems with nonlinearities, *Journal of Multibody System Dynamics*, Vol. 15, No. 1, pp. 67 – 84, 2006.
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14. H. Sugiyama, J. Gerstmayr, A. A. Shabana. Deformation modes of the finite element cross section, *Journal of Sound and Vibration*, Vol. 298, pp. 1129 – 1149, 2006.

15. J. Gerstmayr, M.K. Matikainen. Improvement of the accuracy of stress and strain in the absolute nodal coordinate formulation, *Mechanics Based Design of Structures and Machines*, Vol. 34, No. 4, pp. 409 – 430, 2006.
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38. Siegfried Silber, Gerd Bramerdorfer, Alexander Dorninger, Armin Fohler, Johannes Gerstmayr, Werner Koppelstätter, Daniel Reischl, Günther Weidenholzer, and Simon Weitzhofer. *Proceedings of the Institution of Mechanical Engineers, Part I: Journal of Systems and Control Engineering*, Online First, 2015.

Book-Chapters, Reports

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47. A.K. Belyaev, E. Blumenschein, S. Blumenschein, J. Gerstmayr. Vibrational conductivity approach to vibration in a power plant subjected to aircraft impact, In: *Transactions of the 14th Int. Conf. On Struct. Mech. In Reactor Techn. (SMIRT 14)*, Lyon, France, pp. 331 – 338, 1997.
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