Bjoern Kiefer
Publications and Presentations

I. Theses and Research Projects

1. Kiefer, B., December 1999. *Design of a Vertical Lift Platform*. Student Research Project. Department of Aerospace Engineering, Texas A&M University.
2. Kiefer, B., June 2001. *Implementation and Verification of a SMA Material Law into an Object-Oriented FE code.* Student Research Project (Studienarbeit). Lehrstuhl für Technische Mechanik der Ruhr-Universität Bochum, Bochum, Germany and Centre des Matériaux, Ecole des Mines de Paris, Evry Cedex, France.
3. Kiefer, B., September 2001, *Aufbereitung und Charakterisierung eines thermomechanisch gekoppelten Stoffgesetzes zur Beschreibung des Materialverhaltens polykristalliner Formgedächtnis Legierungen (Revisit and Characterization of a Thermomechanically Coupled Constitutive Law for the Description of Polycrystalline Shape Memory Alloys)*. Diplom Thesis (Diplomarbeit), Lehrstuhl für Technische Mechanik der Ruhr-Universität Bochum, Bochum, Germany.

II. Refereed Journal Publications

1. Kiefer, B. and Lagoudas, D. C., 2005. *Magnetic Field-Induced Martensitic Variant Reorientation in Magnetic Shape Memory Alloys*. Philosophical Magazine Special Issue: Recent Advances in Theoretical Mechanics, in Honor of SES 2003 A.C. Eringen Medalist G.A. Maugin, **85**(33-35), 4289-4329.
2. Kiefer, B., Karaca, H. E. , Lagoudas, D. C. and Karaman, I., 2005. *Characterization and Modeling of the Magnetic Field-Induced Strain and Work Output in Ni_2MnGa Magnetic Shape Memory Alloys*. Submitted to Journal of Magnetism and Magnetic Materials, 2005.

III. Papers in Conference Proceedings

1. Kiefer, B. and Lagoudas, D. C., 2004. *Phenomenological Modeling of Ferromagnetic Shape Memory Alloys*. Proceedings of SPIE, Smart Structures and Materials: Active Materials: Behavior and Mechanics, San Diego, CA, 14-18 March 2004, Vol. 5387, 164-176.
2. Kiefer, B. and Lagoudas, D. C., 2005. *Modeling of the Magnetic Field-Induced Martensitic Variant Reorientation and the Associated Magnetic Shape Memory Effect in MSMAs*. Proceedings of SPIE, Smart Structures and Materials: Active Materials: Behavior and Mechanics, San Diego, CA, 6-10 March 2005, Vol. 5761, 454-465.
3. Kiefer, B. and Lagoudas, D. C., 2006. *Application of a Magnetic SMA Constitutive Model in the Analysis of Magnetomechanical Boundary Value Problems*. To be published in the proceedings of SPIE, Smart Structures and Materials: Active Materials: Behavior and Mechanics, San Diego, CA, 26 February-2 March 2006, Vol. 6170.
4. Kiefer, B. and Lagoudas, D. C., 2006. *Modeling of the Stress- and Magnetic Field-Induced Variant Reorientation in MSMAs.* Proceedings of AIAA, paper 1766, 1-15.
5. Kiefer, B. and Lagoudas, D. C., 2006. *Modeling of the Variant Reorientation in Magnetic Shape Memory Alloys under Complex Magnetomechanical Loading.* Proceedings of ESOMAT 2006, to be published in Material Science & Engineering A.
6. Lagoudas, D. C., Kiefer, B. and Broederdorf, A. J., 2006. *Accurate Interpretation of Magnetic Shape Memory Alloy Experiments Utilizing Coupled Magnetostatic Analysis*. To be published in the proceedings of ASME.

IV. Presentations at Conferences

IVa Presenter and Co-Author

1. Lagoudas, D. C., Karaman, I., Kiefer, B. and Entchev, P. B., 2003. *A Phenomenological Model for Magnetic Shape Memory Alloys with Hysteresis Effects*. ASME International Mechanical Engineering Congress, Applied Mechanics: Constitutive Relations of Advanced Materials: Shape Memory Alloys, Washington, D. C., 15-21 November 2003.
2. Kiefer, B. and Lagoudas, D. C., 2004. *Phenomenological Modeling of Ferromagnetic Shape Memory Alloys*. SPIE 11th Annual International Symposium, Smart Structures and Materials: Active Materials: Behavior and Mechanics: Magnetic Shape Memory Alloys II, San Diego, CA, 14-18 March 2004.
3. Kiefer, B. and Lagoudas, D. C., 2005. *Modeling of the Magnetic Field-Induced Martensitic Variant Reorientation and the Associated Magnetic Shape Memory Effect in MSMAs*. 2005 SPIE/ASME Best Student Paper Presentation Contest, 12th SPIE International Symposium: Smart Structures and Materials, San Diego, CA, 6-10 March 2005.
4. Kiefer, B. and Lagoudas, D. C., 2005. *Modeling of the Magnetic Field-Induced Martensitic Variant Reorientation and the Associated Magnetic Shape Memory Effect in MSMAs*. 12th SPIE International Symposium: Smart Structures and Materials: Behavior and Mechanics: SMA and FSMA, San Diego, CA, 6-10 March 2005.
5. Kiefer, B. and Lagoudas, D. C., 2005. *Magneto-Mechanical Coupling in Boundary Value Problems Involving Magnetic Shape Memory Constitutive Behavior.* ASME International Mechanical Engineering Congress, Aerospace: Adaptive Materials and Systems: Shape Memory Materials II, Orlando, FL, 5-11 November 2005.
6. Kiefer, B. and Lagoudas, D. C., 2006. *Application of a Magnetic SMA Constitutive Model in the Analysis of Magnetomechanical Boundary Value Problems*. 2006 SPIE/ASME Best Student Paper Presentation Contest, 13th SPIE International Symposium: Smart Structures and Materials, San Diego, CA, 26 February-2 March 2006.
7. Kiefer, B. and Lagoudas, D. C., 2006. *Application of a Magnetic SMA Constitutive Model in the Analysis of Magnetomechanical Boundary Value Problems*. 13th SPIE International Symposium: Smart Structures and Materials: Behavior and Mechanics: SMA and FSMA, San Diego, CA, 26 February-2 March 2006.

IVb Co-Author

1. Lagoudas, D. C., Kiefer, B. and Entchev, P. B., 2003. *A Phenomenological Modeling of Magnetic Shape Memory Alloys.* ASME Mechanics and Materials Conference, Smart Materials Characterization, Scottsdale, AZ, 17-20 June 2003.
2. Lagoudas, D. C., Karaman, I., Kiefer, B., Entchev, P. B. and Karaca, H. E., 2003. *A Phenomenological Model Based on the Experimental Characterization of Ferromagnetic Shape Memory Alloy Systems*. SES 40th Annual Technical Meeting, Shape Memory Materials, Ann Arbor, MI, 12-15 October 2003.
3. Lagoudas, D. C., Karaman, I. and Kiefer, B., 2004. *Investigation of the Influence of the Magnetic Microstructure on the Martensitic Variant Reorientation Process in Magnetic Shape Memory Alloys*. Keynote Lecture SES 41st Annual Technical Meeting, Active Materials and Structures, Lincoln, NE, 10-13 October 2004.
4. Lagoudas, D. C. and Kiefer, B., 2004. *Constitutive Modeling of the Ferromagnetic Shape Memory Effect under Special Consideration of the Evolution of Magnetic Domains*. ASME International Mechanical Engineering Congress: Aerospace: Adaptive Materials and Systems: Shape Memory Alloys I, Anaheim, CA, 13-19 November 2004.
5. Lagoudas, D. C., Karaman, I. and Kiefer, B., 2005. *Experimental Investigation and Constitutive Modeling of the Magnetic Shape Memory Effect Caused by Martensitic Variant Rearrangement*. MRS Spring 2005 Meeting: Modeling and Computation Symposium: Coupled Nonlinear Phenomena—

Modeling and Simulation for Smart, Ferroic and Multiferroic Materials, San Francisco, CA, 28 March-1 April.

6. Lagoudas, D. C., Kiefer, B. and Karaman, I., 2005. *Constitutive Modeling of the Strain and Magnetization Hysteresis Curves Associated with the Magnetic Shape Memory Effect*. Workshop on Magnetic Shape Memory Alloys organized by the Eidgenössische Technische Hochschule (ETH) Zürich, Ascona, Switzerland, 11-16 September 2005.
7. Lagoudas, D. C., Popov, P. A. and Kiefer, B., 2005. *Modeling of Multifunctional Materials with Shape Memory*. Keynote Lecture International Conference on Computational & Experimental Engineering and Sciences (ICCES): Mechanics of Composite Materials and Structures: Progress on Mechanics and Design of Advanced Structural Materials and Nanocomposites, Chennai, India, 1-6 December 2005.
8. Lagoudas, D. C. and Kiefer, B., 2006. *Modeling of the Stress- and Magnetic Field-Induced Variant Reorientation in MSMAs.* 47th AIAA Structures, Structural Dynamics, and Materials Conference: Multifunctional Materials I, Newport, RI, 1-4 May 2006.

IVc Poster Presentations

1. Karaman, I. , Lagoudas, D. C., Maier, H. J. and Kiefer, B., 2005. *Bridging Length Scales in Deforming Single and Textured Polycrystals of Structural Magnetic Shape Memory Alloys*. NSF-Europe Grantees Meeting and Forum on Europe-USA Collaboration in Materials Research, Strasbourg, France, 30-31 May 2005.
2. Kiefer, B., Lagoudas., D. C., Karaman, I. and Maier, H. J., 2005. *Bridging Length Scales in Deforming Single and Textured Polycrystals of Structural Magnetic Shape Memory Alloys*. 3rd Annual Tiims-URETI Review meeting and Conference, College Station, TX, 2-3 August 2005.

V. Invited Presentations

1. Lagoudas, D. C., Karaman, I., Kiefer, B., Entchev, P. B. and Karaca, E., 2003. *A Phenomenological Model for Magnetic Shape Memory Alloys with Hysteresis Effects.* Lehrstuhl für Technische Mechanik der Universität Kaiserslautern, Kaiserslautern, Germany, 16 December 2003.
2. Lagoudas, D. C., Karaman, I., Kiefer, B., Entchev, P. B. and Karaca, E., 2003. *A Phenomenological Model for Magnetic Shape Memory Alloys with Hysteresis Effects.* Lehrstuhl für Technische Mechanik der Ruhr-Universität Bochum, Bochum, Germany, 17 December 2003.
3. Lagoudas, D. C., Karaman, I., Kiefer, B., Entchev, P. B. and Karaca, E., 2003. *A Phenomenological Model for Magnetic Shape Memory Alloys with Hysteresis Effects.* Lehrstuhl für Werkstoffkunde der Universität Paderborn, Paderborn, Germany, 18 December 2003.
4. Kiefer, B. *How to Effectively Present Research Results: A Ph.D. Student's Perspective*. AERO 681 Seminar Series, Texas A&M University, 4 April 2006.