

**MATERIALS RESEARCH SOCIETY**  
**SYMPOSIUM PROCEEDINGS VOLUME 1050**

# **Magnetic Shape Memory Alloys**

November 26-30, 2007  
Boston, Massachusetts, USA

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571  
[www.proceedings.com](http://www.proceedings.com)

**ISBN: 978-1-60560-815-0**

**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright (2008) by the Materials Research Society.  
All rights reserved.

For permission requests, please contact the Materials Research Society at the address below.

Materials Research Society  
Proceedings  
506 Keystone Dr.  
Warrendale, PA 15086  
Phone: 724-779-3004 x 531  
Fax: 724-779-4396  
[eproceedings@mrs.org](mailto:eproceedings@mrs.org)

## TABLE OF CONTENTS

<b>Modeling Magnetoelasticity and Magnetoplasticity with Disconnections and Disclinations</b> .....	1
<i>P. Müllner, A. S. Geleynse, D. R. Carpenter, M. S. Hagler, M. Chmielus</i>	
<b>A Thermo-Magneto-Mechanical Free Energy Model for NiMnGa Single Crystals</b> .....	12
<i>P. Morrison, S. Seelecke, M. Kohl, B. Krevet</i>	
<b>Martensite Transition and Microscopic Magnetism of Epitaxial Ni<sub>2</sub>MnGa Films</b> .....	18
<i>G. Jakob, T. Eichhorn, M. Kallmayer, H. J. Elmers</i>	
<b>Determination of Symmetry Reduced Structures by a Soft-phonon Analysis in Ni<sub>2</sub>MnGa</b> .....	24
<i>T. Hickel, M. A. Uijtewall, B. Grabowski, J. Neugebauer</i>	
<b>Cast and Rolling Textures of NiMnGa Alloys</b> .....	30
<i>R. Chulist, M. Poetschke, A. Boehm, H. G. Brokmeier, U. Garbe, T. Lippmann, C. G. Oertel, W. Skrotzki</i>	
<b>A First-principles Study of the Martensitic Instabilities in Magnetic Shape Memory Alloys</b> .....	36
<i>P. Entel, M. E. Gruner, A. Hucht</i>	
<b>Magnetic-Field-Induced Strain of Fe-based Ferromagnetic Shape-Memory Alloy in a Pulsed Magnetic Field</b> .....	41
<i>T. Sakon, T. Fukuda, H. Nojiri, T. Kakeshita</i>	
<b>Author Index</b>	