

SYMPOSIUM BB

Defect Properties and Related Phenomena in
Intermetallic Alloys

December 3 – 5, 2002

Chairs

Easo P. George Oak Ridge Natl Laboratory
Michael J. Mills Ohio State Univ
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* Invited paper

SESSION BB1: NICKEL AND IRON ALUMINIDES

Chairs: C. T. Liu and Timothy Fitzsimmons
Tuesday Morning, December 3, 2002
Back Bay B (Sheraton)

8:30 AM *BB1.1

SOME DEFECT TYPES IN INTERMETALLICS AND THEIR
CONSEQUENCES. Robert W. Cahn, Department of Materials
Science and Metallurgy, Cambridge University, UNITED KINGDOM.

9:00 AM *BB1.2

HARDENING BY POINT DEFECTS AND SOLUTES IN B2
INTERMETALLICS. L.M. Pike, Haynes International, Engineering
and Technology, Kokomo, IN; Y.A. Chang, University of Wisconsin,
Department of Materials Science and Engineering, Madison, WI; C.T. Liu,
I.M. Anderson, Oak Ridge National Laboratory, Metals and
Ceramics Division, Oak Ridge, TN.

9:30 AM BB1.3

THE YIELD STRENGTH ANOMALY AND DUCTILITY OF
SINGLE-SLIP-ORIENTED FeAl SINGLE CRYSTALS. I. Baker and
D. Wu, Thayer School of Engineering, Dartmouth College, Hanover,
NH; E.P. George, Metals and Ceramics Division, Oak Ridge National
Laboratory, Oak Ridge, TN.

9:45 AM BB1.4

EXPLORING SPECIMEN SIZE EFFECTS IN Ni₃(Al, Ta).
M.D. Uchic^a, J.N. Florando^b, W.D. Nix^b, and D.M. Dimiduk^a; ^a Air
Force Research Laboratory, Materials & Manufacturing Directorate,
Wright-Patterson AFB, OH; ^bStanford University, Department of
Materials Science and Engineering, Stanford, CA.

10:00 AM BB1.5

INVESTIGATION ON ADDITIONAL HARDENING MECHANISMS
IN OFF-STOICHIOMETRIC Al-RICH Ni₃Al ALLOYS IN TERMS
OF ANTI-SITE DEFECT CONFIGURATION. Seiji Miura, Satoshi
Takizawa, Yoshinao Mishima[†] and Tetsuo Mohri, Division of
Materials Science and Engineering, Graduate School of Engineering,
Hokkaido University, Sapporo, JAPAN. [†]Department of Materials
Science and Engineering, Interdisciplinary Graduate School of Science
and Engineering, Tokyo Institute of Technology, Yokohama, JAPAN.

10:15 AM BREAK

10:30 AM *BB1.6

MAGNETISM-INDUCED SOLID SOLUTION SOFTENING IN
INTERMETALLIC NiAl. C.L. Fu, C.T. Liu, Oak Ridge National
Laboratory, Metals and Ceramics Division, Oak Ridge, TN.

11:00 AM BB1.7

IMPROVED INTERATOMIC POTENTIALS FOR SIMULATING
Fe-Al ALLOYS. Mikhail Mendeleev, David Srolovitz, Princeton
Materials Institute, Princeton University, Princeton, NJ; Graeme
Ackland, Dept of Physics & Astronomy, University of Edinburgh,
Edinburgh Scotland, UNITED KINGDOM.

11:15 AM BB1.8

AB INITIO STUDY OF THEORETICAL TENSILE STRENGTH
AND MAGNETIC PHASE TRANSFORMATIONS IN Ni₃Al AND
Fe₃Al. Dominik Legut, Institute of Physics of Materials, Academy of
Sciences of the Czech Republic, Brno, and Brno University of
Technology, Faculty of Chemistry, Department of Chemistry of
Materials, Brno, CZECH REPUBLIC; Martin Friak, Mojmir Sob,
Institute of Physics of Materials, Academy of Sciences of the Czech
Republic, Brno, CZECH REPUBLIC; Jaroslav Fiala, Brno University
of Technology, Faculty of Chemistry, Department of Chemistry of
Materials, Brno, CZECH REPUBLIC.

11:30 AM BB1.9

OBSERVATION OF DEFORMATION SUBSTRUCTURES IN
FATIGUED INTERMETALLIC ALLOYS USING MAGNETIC
PROPERTIES. Yukichi Umakoshi, Osaka Univ, Dept of Materials
Science and Engineering & Handai Frontier Research Center, Osaka,
JAPAN; Hiroyuki Y. Yasuda, Osaka Univ, Research Center for
Ultra-High Voltage Electron Microscopy & Handai Frontier Research
Center, Osaka, JAPAN.

11:45 AM BB1.10

ORIENTATION DEPENDENCE OF THE TEXTURE EVOLUTION
IN COLD-ROLLED THIN FOILS OF Ni₃Al SINGLE CRYSTALS.
Kyosuke Kishida, Masahiko Demura, National Institute for Materials
Science, Tsukuba, JAPAN; Yozo Suga, Nippon Cross Rolling Co.,
Chiba, JAPAN; Toshiyuki Hirano, National Institute for Materials
Science, Tsukuba, JAPAN.

SESSION BB2: ULTRA HIGH TEMPERATURE INTERMETALLICS

Chairs: David P. Pope and Yukichi Umakoshi
Tuesday Afternoon, December 3, 2002
Back Bay B (Sheraton)

1:30 PM *BB2.1

CURRENT STATUS OF ULTRA-HIGH TEMPERATURE
INTERMETALLIC ALLOYS FOR STRUCTURAL APPLICATIONS.
Yoshinao Mishima, Nobuaki Sekido, Fu-Gao Wei[†] and Yoshisato
Kimura, Tokyo Institute of Technology, Dept. Mater. Sci. and Eng.,
Yokohama, JAPAN. [†]Now with National Institute for Materials
Science, Tsukuba, JAPAN.

2:00 PM BB2.2

OPTIMIZATION OF Mo-Si-B INTERMETALLICS. J.H. Schneibel,
P.F. Tortorelli, Oak Ridge National Laboratory, Metals and Ceramics
Division, Oak Ridge, TN; M.J. Kramer and A.J. Thom, Iowa State
University, Ames Laboratory, Ames, IA; R.O. Ritchie, Lawrence
Berkeley National Laboratory, Materials Sciences Division, and
University of California, Dept of Materials Science and Engineering,
Berkeley, CA.

2:15 PM BB2.3

TRANSITION METAL SUBSTITUTIONAL ALLOYING AND
PHASE STABILITY IN Mo-Si-B SYSTEM. R. Sakidja, S. Kim, J.S.
Park, J.H. Perepezko, University of Wisconsin-Madison, Dept of
Materials Science & Engineering, WI.

2:30 PM BB2.4

ANALYSES OF EUTECTOID PHASE TRANSFORMATIONS IN
Nb-SILICIDE IN-SITU COMPOSITES. B.P. Bewlay, S.D. Sitzman,
L.N. Brewer and M.R. Jackson, General Electric Global Research,
Schenectady, NY.

2:45 PM BB2.5

EFFECTS OF SOLIDIFICATION PARAMETERS ON LAMELLAR
MICROSTRUCTURES OF NEAR EUTECTIC Cr-Cr₃Si ALLOYS.
H. Bei, E.P. George, G.M. Pharr, Oak Ridge National Laboratory,
Metals and Ceramics Division, Oak Ridge, TN and The University of
Tennessee, Department of Materials Science and Engineering,
Knoxville, TN.

3:00 PM BB2.6

MICROSTRUCTURAL EVALUATION OF Nb-Ti-Cr-Si ALLOYS
FABRICATED USING THE LASER ENGINEERED NET SHAPING
(LENS) TECHNIQUE. Ryan R. Dehoff, Peter C. Collins, Hamish L.
Fraser, Michael J. Mills, The Ohio State University, Dept of Materials
Science, Columbus, OH.

3:15 PM BREAK

3:30 PM *BB2.7

PHASE TRANSFORMATIONS IN PLATINUM ALUMINIDE BOND COATS FOR THERMAL BARRIER COATINGS. K.J. Hemker, Johns Hopkins University, Depts of Mechanical Eng. and Materials Science and Eng., Baltimore, MD.

4:00 PM BB2.8

DISLOCATION STRUCTURE OF W-ADDED NbSi₂ STUDIED BY ATOMIC-RESOLUTION Z-CONTRAST STEM. Eiji Abe, Oak Ridge National Laboratory, Solid State Division, Oak Ridge, TN and National Institute for Materials Science, Tsukuba, JAPAN; S.J. Pennycook, Oak Ridge National Laboratory, Solid State Division, Oak Ridge, TN; T. Nakano, Y. Umakoshi, Osaka Univ, Dept of Materials Science and Engineering, Osaka, JAPAN; M. Nakamura, National Institute for Materials Science, Tsukuba, JAPAN.

4:15 PM BB2.9

MECHANICAL AND THERMAL PROPERTIES OF SINGLE CRYSTALS OF ZrB₂. N.L. Okamoto, M. Kusakari, K. Tanaka, H. Inui, M. Yamaguchi, Kyoto Univ, Dept of Materials Science and Engineering, Kyoto, JAPAN; S. Otani, National Institute for Materials Science, Tsukuba, Ibaraki, JAPAN.

4:30 PM BB2.10

PLASTIC PROPERTIES OF SINGLE-CRYSTALLINE RuAl. M. Wollgarten, F. Krogh, E. Fischer, G. Kosterz, ETH-Zürich, Institute of Applied Physics, Zürich, SWITZERLAND.

4:45 PM BB2.11

MECHANICAL BEHAVIOR OF TERNARY AND QUATERNARY RuAl ALLOYS. T.K. Nandy^a, Q. Feng^a, M.F.X. Gigliotti^b, T.M. Pollock^a, ^aUniversity of Michigan, Materials Science and Engineering, Ann Arbor, MI; ^bGeneral Electric Company, Corporate Research and Development, Schenectady, NY.

SESSION BB3: TITANIUM ALUMINIDES - I
Chairs: Tresa M. Pollock and Helmut Clemens
Wednesday Morning, December 4, 2002
Back Bay B (Sheraton)

8:30 AM *BB3.1

POINT DEFECT MECHANISMS IN DEFORMATION AND PHASE TRANSFORMATION OF TITANIUM ALUMINIDE ALLOYS. Fritz Appel, Institute for Materials Research, GKSS-Research Centre, Geesthacht, GERMANY.

9:00 AM BB3.2

A REVISED JOGGED-SCREW MODEL FOR CREEP OF TiAl: IDENTIFICATION OF THE KEY SUBSTRUCTURAL PARAMETERS. S. Karthikeyan, G.B. Viswanathan, M.J. Mills, Dept of Materials Science and Engineering, The Ohio State University, Columbus, OH.

9:15 AM BB3.3

CREEP PROPERTIES OF A HIGH NIOBIUM CONTAINING GAMMA-TiAl ALLOY SHEET MATERIAL. A. Bartels, S. Bystrzanowski, TU-Hamburg Harburg, Hamburg, GERMANY; R. Gerling, F.P. Schimansky, H. Clemens, GKSS Research Center, Geesthacht, GERMANY; H. Kestler, Plansee AG, Reutte, AUSTRIA; M. Weller, Max-Planck-Institut fuer Metallforschung, Stuttgart, GERMANY.

9:30 AM BB3.4

FORMATION OF β PHASE IN MULTI-COMPONENT GAMMA ALLOYS. Masao Takeyama, Takahiro Motegi, Satoru Kobayashi, Noriaki Hiraota, Takashi Matsuo, Tokyo Institute of Technology, Dept of Metallurgy and Ceramics Science, Tokyo, JAPAN.

9:45 AM BB3.5

INTERFACE STRUCTURE AND ENERGY CALCULATIONS FOR TERNARY CARBIDE PRECIPITATES IN GAMMA-TiAl. R. Benedek, D.N. Seidman, Northwestern Univ, Evanston, IL; C. Woodward, Air Force Research Laboratory, WPAFB, OH.

10:00 AM BB3.6

OXYGEN INDUCED CHEMICAL ORDERING IN A Ti-48 AT. % Al ALLOY. Williams Lefebvre, Alain Menand, Groupe de Physique des Materiaux, Univ de Rouen, Mont Saint Aignan, FRANCE; Annick Loiseau, LEM CNRS Onera, Onera, Chatillon, FRANCE.

10:15 AM BREAK

10:30 AM *BB3.7

FORMATION AND EFFECT OF CARBIDES IN FULLY-LAMELLAR GAMMA TiAl ALLOYS. Young-Won Kim, UES, Inc., Materials & Processes Div., Dayton, OH; Dennis M. Dimiduk, Air Force Research Laboratory, AFRL/MLLM, Wright-Patterson AFB, OH.

11:00 AM BB3.8

MICROCRACK NUCLEATION AND CRACK PROPAGATION IN EQUIAXED γ TiAl. B.C. Ng, B.A. Simkin, T.R. Bieler, and M.A. Crimp, Department of Chemical Engineering and Materials Science, Michigan State University, East Lansing, MI.

11:15 AM BB3.9

MICROSTRUCTURAL EFFECT ON ENVIRONMENTAL EMBRITTLEMENT OF ISOTHERMALLY FORGED TiAl-BASED INTERMETALLIC ALLOYS. T. Takasugi, T. Tsuyumu, Y. Kaneko and H. Inoue, Department of Metallurgy and Materials Science, Graduate School of Engineering, Osaka Prefecture University, Sakai, Osaka, JAPAN.

11:30 AM BB3.10

DISLOCATION/TWIN/INTERFACE INTERACTIONS DURING DEFORMATION OF PST TiAl SINGLE CRYSTALS, AN AFM STUDY. Yali Chen, David P. Pope, Vaclav Vitek, University of Pennsylvania, Department of Materials Science and Engineering, Philadelphia, PA.

11:45 AM BB3.11

FORMATION OF AN ULTRA-FINE LAMELLAR MICRO-STRUCTURE IN TiAl-BASED ALLOYS. F. Meisenkothen, R. Banerjee, G.B. Viswanathan, H.L. Fraser, Ohio State University, Department of Materials Science and Engineering, Columbus, OH.

SESSION BB4: TITANIUM ALUMINIDES - II AND OTHER INTERMETALLICS - I

Chairs: Joachim H. Schneibel and David D. Johnson
Wednesday Afternoon, December 4, 2002
Back Bay B (Sheraton)

1:30 PM *BB4.1

MICROMECHANISMS OF DEFORMATION IN GAMMA-TiAl. Patrick Veysi re, LEM, CNRS-ONERA, Chatillon, FRANCE.

2:00 PM BB4.2

HRTEM OBSERVATION OF PARTIALLY ORDERED LONG-PERIOD SUPERSTRUCTURES IN Al-RICH TiAl ALLOYS. S. Hata, K. Higuchi, T. Mitate, M. Itakura, Y. Tomokiyo, Dept of Applied Science for Electronics and Materials, Kyushu University, Fukuoka, JAPAN; N. Kuwano, Advanced Science and Technology Center for Cooperative Research, Kyushu University, Fukuoka, JAPAN; T. Nakano, Y. Nagasawa, Y. Umakoshi, Dept of Materials Science and Engineering and Handai Frontier Research Center, Osaka University, Osaka, JAPAN.

2:15 PM BB4.3

ATOMISTIC STUDIES OF DISLOCATION MOBILITY IN TiAl. R. Porizek^a, S. Znam^a, D. Nguyen-Manh^b, V. Vitek^a and D.G. Pettifor^b, ^aDepartment of Materials Science and Engineering, University of Pennsylvania, Philadelphia, PA; ^bDepartment of Materials, University of Oxford, Oxford, UNITED KINGDOM.

2:30 PM BB4.4

POINT DEFECTS, ATOMIC DISORDER AND DIFFUSION IN GAMMA-TiAl. Rajendra R. Zope and Y. Mishin, School of Computational Sciences, George Mason University, Fairfax, VA; M. Mehl and D.A. Papaconstantopoulos, Center for Computational Materials Science, Naval Research Laboratory, Washington, DC.

2:45 PM BB4.5

INTERDIFFUSION AND PHASE TRANSFORMATION IN POLYSYNTHETICALLY TWINNED (PST) TiAl / Ti DIFFUSION COUPLES. Ling Pan, David E. Luzzi, Univ of Pennsylvania, Dept of Materials Science and Engineering, Philadelphia, PA.

3:00 PM BREAK

3:15 PM *BB4.6

HIGH-TEMPERATURE-RESISTANT INTERMETALLIC NiAl-BASED ALLOYS WITH REFRACTORY METALS Cr, Mo, Re - STRUCTURES - PROPERTIES - APPLICATIONS. Georg Frommeyer, Ralf Rablbauer, Department of Materials Technology, Max-Planck-Institut fuer Eisenforschung, Duesseldorf, GERMANY.

3:45 PM BB4.7

STRUCTURAL MODULATIONS AND MICROSCOPIC ORIGIN OF Ti_2Al DURING $\alpha_2 \leftrightarrow \gamma$ TRANSFORMATION IN FULLY LAMELLAR γ TiAl. M. Karadge and P.I. Gouma, Materials Science & Engineering, State University of New York, Stony Brook, NY.

4:00 PM BB4.8

NUMERICAL SIMULATIONS OF LAMELLAR STRUCTURE: APPLICATIONS TO METALLIC ALLOYS. Rifa El-Khozondar, Al-Aqsa Univ., Dept. of Physics, Gaza, Gaza Strip, ISRAEL; Hala El-Khozondar, Islamic Univ., Dept of EE, Gaza, Gaza Strip, ISRAEL.

4:15 PM BB4.9

VACANCY AND SELF-DIFFUSION IN ORDERED INTERMETALLICS. Murray S. Daw, Dept of Physics, Clemson University, Clemson, SC; and Michael J. Mills, Dept of Materials Science, Ohio State University, Columbus, OH.

4:30 PM BB4.10

THE HETEROGENEOUS CHARACTER OF PHASE TRANSFORMATIONS CAUSED BY LIMITED VACANCY MOBILITY. Wolfgang Püschl, Wolfgang Pfeiler, Inst. Materialphysik, University of Vienna, Vienna, AUSTRIA; William A. Soffa, Dept. Mat. Sci. & Eng., University of Pittsburgh, Pittsburgh, PA.

4:45 PM BB4.11

DIRECTIONAL FLUCTUATION MICROSCOPY STUDIES OF SHORT-RANGE ORDERING IN Ni-Mo ALLOYS. Xidong Chen, Cedarville Univ & Argonne National Lab, Materials Science Division, Cedarville, OH; Vijay K. Vasudevan, University of Cincinnati, Department of Materials Science and Engineering, Cincinnati, OH.

SESSION BB5: POSTER SESSION
STRUCTURAL AND FUNCTIONAL
INTERMETALLICS

Chairs: Masao Takeyama, David E. Luzzi and
Jorg M. K. Wiezorek

Wednesday Evening, December 4, 2002
8:00 PM

Exhibition Hall D (Hynes)

BB5.1

PRECIPITATION PHENOMENA AND STRAIN HARDENING OF INTERMETALLIC TITANIUM ALUMINIDES. Johann Muellauer, Fritz Appel, Institut für Materials Research, GKSS-Research Centre Geesthacht, Geesthacht, GERMANY.

BB5.2

ALIGNMENT OF THE LAMELLAR ORIENTATION OF MULTI-COMPONENT TiAl ALLOYS BY DIRECTIONAL SOLIDIFICATION (DS) AND MECHANICAL PROPERTIES OF DS INGOTS. Y. Omiya, S. Muto, T. Yamanaka, Kyoto Univ, Dept of Materials Science and Engineering, Kyoto, JAPAN; D.R. Johnson, School of Materials Engineering, Purdue University, West Lafayette, IN; H. Inui, M. Yamaguchi, Kyoto Univ, Dept of Materials Science and Engineering, Kyoto, JAPAN.

BB5.3

MICROSTRUCTURAL CHANGES OF A γ -TiAl BASED ALLOY WITH A FULLY LAMELLAR MICROSTRUCTURE DUE TO ANNEALING AT ELEVATED TEMPERATURES. Manuel Beschliesser, Materials Center Leoben (MCL), Leoben, AUSTRIA; Fritz Appel, Helmut Clemens, GKSS Research Centre, Institute for Materials Research, Geesthacht, GERMANY; Heinrich Kestler, PLANSEE Aktiengesellschaft, Technology Center, Reutte, AUSTRIA.

BB5.4

EFFECTS OF THE VARIATION IN α -PHASE VOLUME FRACTION ON THE THERMAL STABILITY OF TiAl ALLOYS WITH A LAMELLAR MICROSTRUCTURE. S.W. Kim, H.N. Lee, D.M. Wee, Department of Materials Science and Engineering, KAIST, Daejeon, KOREA; M.H. Oh, Department of Material Science and Engineering, KIT, Gumi, KOREA; M. Yamaguchi, Department of Material Science and Engineering, Kyoto Univ., Sakyo-ku, Kyoto, JAPAN.

BB5.5

A MECHANISM OF POLYCRYSTALLIZATION IN FULLY LAMELLAR Ti-48Al-8Nb SINGLE CRYSTAL ALLOY AGED AT ELEVATED TEMPERATURES. Yukinori Yamamoto, Masao Takeyama, Takashi Matsuo, Tokyo Institute of Technology, Dept of Metallurgy and Ceramics Science, Tokyo, JAPAN.

BB5.6

MICROSTRUCTURAL STABILITY OF FULLY LAMELLAR

GAMMA TiAl ALLOYS UNDER CREEP. S. Karthikeyan, Dept of Materials Science and Engineering, The Ohio State University, Columbus, OH; Y.-W. Kim, UES Inc., Dayton, OH; M.J. Mills, Dept of Materials Science and Engineering, The Ohio State University, Columbus, OH.

BB5.7

Abstract Withdrawn

BB5.8

PLASTIC DEFORMATION BEHAVIOR OF Al_5Ti_3 SINGLE-PHASE SINGLE CRYSTALS. Takayoshi Nakano, Koutaro Hayashi, Yukichi Umakoshi, Osaka Univ, Dept of Materials Science and Engineering & Handai Frontier Research Center, Osaka, JAPAN.

BB5.9

Abstract Withdrawn

BB5.10

ELEMENT DISTRIBUTIONS IN TERNARY γ α_2 PST-TiAl X (W, Ta, Mo, OR Cu) ALLOYS CHARACTERIZED BY AN ANALYTICAL STEM. Wei (Wayne) Zhao^a and David E. Luzzi, Dept of Materials Sciences and Engineering, University of Pennsylvania, Philadelphia, PA; ^anow at Infineon Technologies, Richmond, VA.

BB5.11

EFFECTS OF ANTIPHASE DOMAIN BOUNDARIES ON PLASTIC BEHAVIOR OF Ti_3Al SINGLE CRYSTALS. Yuichiro Koizumi, Yoritoshi Minamino, Nobuhiro Tsuji, Dept of Adaptive Machine Systems, Osaka Univ, Osaka, JAPAN; Takayoshi Nakano, Y. Umakoshi, Dept of Materials Science and Engineering, Osaka Univ, Osaka, JAPAN.

BB5.12

THE STABILITY OF ANTIPHASE BOUNDARIES AND VACANCIES, LOCATED NEAR ANTIPHASE BOUNDARIES, IN ORDERED ALLOYS Ti_3Al , Ni_3Ti WITH SUPERSTRUCTURE D019 AND D024. Mikhail Baranov, Evgenya Chernyh, Alexey Krymskih, Evgenyi Dubov, Mikhail Starostenkov, Altai State Technical Univ, Dept of General Physics, Barnaul, RUSSIA.

BB5.13

THE EFFECTS OF SUBSTITUTIONAL ELEMENTS ON THE STRAIN-INDUCED FERROMAGNETISM IN B2-STRUCTURED FeAl SINGLE CRYSTALS. D. Wu and I. Baker, Thayer School of Engineering, Dartmouth College, Hanover, NH; P.R. Munroe, Electron Microscope Unit, University of New South Wales, Sydney, AUSTRALIA.

BB5.14

NANOPOROUS BEHAVIOR INDUCED BY EXCESS VACANCY CLUSTERING IN RAPIDLY-SOLIDIFIED B2 FeAl RIBBONS. Tomohide Haraguchi, Kyosuke Yoshimi, Hidemi Kato, Syuji Hanada, Akihisa Inoue, Tohoku Univ, Institute for Materials Research, Sendai, JAPAN.

BB5.15

EFFECT OF ANTIPHASE BOUNDARY ON THE PSEUDOELASTICITY IN Fe_3Al SINGLE CRYSTALS. Hiroyuki Y. Yasuda, Osaka Univ, Research Center for Ultra-High Voltage Electron Microscopy & Handai Frontier Research Center, Osaka, JAPAN; Kazuaki Nakano, Masato Ueda, Osaka Univ, Dept of Materials Science and Engineering, Osaka, JAPAN; Yukichi Umakoshi, Osaka Univ, Dept of Materials Science and Engineering & Handai Frontier Research Center, Osaka, JAPAN.

BB5.16

CALCULATION OF THERMAL EXPANSION COEFFICIENT OF Fe_3Al WITH THE ADDITION OF TRANSITION METAL ELEMENTS. Tatiana Seletskaja, Leonid Muratov, Bernard Cooper, West Virginia University, Dept of Physics, Morgantown, WV.

BB5.17

THE EFFECT OF HOT ROLLING AND HEAT TREATMENT ON ROOM TEMPERATURE DUCTILITY OF A NiAl INTERMETALLIC COMPOUND. J. Colin, S. Garcia, R. Herrera, C. Gonzalez and J.A. Juarez-Islas, Universidad Nacional Autonoma de Mexico, Instituto de Investigaciones en Materiales, D.F., MEXICO.

BB5.18

MICROSTRUCTURE AND OXIDATION OF A CAST NICKEL ALUMINIDE ALLOY. D.Y. Lee^{a,b}, M.L. Santella^b, I.M. Anderson^b, and G.M. Pharr^{a,b}; ^aDept of Materials Science and Engineering, The University of Tennessee, Knoxville, TN; ^bOak Ridge National Laboratory, Metals and Ceramics Division, Oak Ridge, TN.

BB5.19

EFFECT OF INTERPHASE BOUNDARY CHARACTER ON MECHANICAL PROPERTIES IN NiAl(β) BICRYSTALS WITH Ni₃Al(γ') PRECIPITATES ALONG GRAIN BOUNDARY.

Toshiya Sakata, Osaka Univ, Dept of Materials Science and Engineering, Osaka, JAPAN; Hiroyuki Y. Yasuda, Osaka Univ, Research Center for Ultra-High Voltage Electron Microscopy & Handai Frontier Research Center, Osaka, JAPAN; Yukichi Umakoshi, Osaka Univ, Dept of Materials Science and Engineering & Handai Frontier Research Center, Osaka, JAPAN.

BB5.20

BENDING DUCTILITY OF HEAVILY COLD-ROLLED Ni₃Al THIN FOILS. Satoru Kobayashi, Masahiko Demura, Kyosuke Kishida and Toshiyuki Hirano, National Institute for Materials Science, Tsukuba, Ibaraki, JAPAN.

BB5.21

ENERGETICS AND KINETICS OF GAMMA CHANNEL FILLING BY DISLOCATIONS DURING PLASTIC DEFORMATION IN Ni-BASED SUPERALLOYS: A PHASE FIELD SIMULATION. C. Shen, M.J. Mills, Y. Wang, The Ohio State University, Department of Materials Science and Engineering, Columbus, OH.

BB5.22

AB-INITIO STUDY OF DIFFUSION IN NICKEL-ALUMINUM-RHENIUM SUPERALLOYS. Richard G. Hennig, John W. Wilkins, The Ohio State University, Department of Physics, Columbus, OH; Michael J. Mills, The Ohio State University, Department of Materials Science and Engineering, Columbus, OH.

BB5.23

MICROSTRUCTURE AND TENSILE PROPERTIES OF COLD-ROLLED THIN FOILS OF BINARY Ni-Al γ/γ' ALLOYS. Dingqiang Li^{a,b}, Masahiko Demura^a, Kyosuke Kishida^a, Yozo Suga^c, and Toshiyuki Hirano^a; ^aNational Institute for Materials Science, Tsukuba, Ibaraki, JAPAN; ^bShanghai Jiao Tong University, School of Materials Science and Engineering, Shanghai, P.R. CHINA; ^cNippon Cross Rolling Corporation, Mobarra, Chiba, JAPAN.

BB5.24

THE EFFECTS OF SUBSTITUTIONAL ADDITIONS ON THE CREEP BEHAVIOR ON TETRAGONAL AND HEXAGONAL Nb-SILICIDES. B.P. Bewlay, C.L. Briant, E.T. Sylven, and M.R. Jackson.

BB5.25

EFFECT OF GROWTH RATE ON MICROSTRUCTURE AND MECHANICAL PROPERTIES OF THE DIRECTIONALLY SOLIDIFIED Nb-Si EUTECTIC ALLOY. Nobuaki Sekido[†], Yoshisato Kimura, Yoshinao Mishima, Tokyo Institute of Technology, Dept. of Materials Science and Engineering, Yokohama, JAPAN. [†]Now with University of Wisconsin-Madison, Dept. of Materials Science and Engineering, Madison, WI.

BB5.26

MECHANICAL PROPERTIES OF DIRECTIONAL SOLIDIFIED MULTIPHASE M-Si-B (M=Mo, Nb) ALLOYS. Michiaki Kumagai, Kazuhiro Ito, Masaharu Yamaguchi, Kyoto Univ, Dept of Materials Science and Engineering, Kyoto, JAPAN.

BB5.27

PHYSICAL AND MECHANICAL PROPERTIES OF Mo₅X_{3+ α} (X=Si, B, C) SINGLE CRYSTALS. Taisuke Hayashi, Kazuhiro Ito, Katsushi Tanaka, Masaharu Yamaguchi, Kyoto Univ, Dept of Materials Science and Engineering, Kyoto, JAPAN.

BB5.28

DEFECT PROPERTIES AND MAGNETISM IN B2-TYPE CoFe ALLOYS. Keiichi Harada, Hiroki Ishibashi and Mineo Kogachi, Dept of Materials Science, College of Integrated Arts and Sciences, Osaka Prefecture Univ, Sakai, Osaka, JAPAN.

BB5.29

EFFECT OF ADDITIVES ON THE PHASE EQUILIBRIA RELATED TO THE E21-Fe₃AlC INTERMETALLIC COMPOUND WITH CARBON ATOM AT THE INTERSTITIAL SITE. Hiroaki Ishii[†], Seiji Miura and Tetsuo Mohri, Division of Materials Science and Engineering, Graduate School of Engineering, Hokkaido University, Sapporo, JAPAN. [†]Graduate student, Graduate School of Engineering, Hokkaido University.

BB5.30

PLASTIC DEFORMATION BEHAVIOR OF Ni₃X (X=Nb, Ti, Sn) TYPE HCP-BASED INTERMETALLICS WITH THE GEOMETRICALLY CLOSE-PACKED STRUCTURE.

Koji Hagihara, Takayoshi Nakano, Yukichi Umakoshi, Osaka Univ, Dept of Materials Science and Engineering & Handai Frontier Research Center, Osaka, JAPAN.

BB5.31

Al \rightarrow D0₂₂ TRANSFORMATION AND MULTI-VARIANT STRUCTURE OF Ni₃V. Akane Suzuki, Masao Takeyama, Takashi Matsuo, Tokyo Institute of Technology, Dept. of Metallurgy and Ceramics Science, Tokyo, JAPAN.

BB5.32

PHASE CONSTITUTION AND OXIDATION RESISTANCE OF B2 (Ir, Co)Al. Hideki Hosoda, Kenji Wakashima, Tokyo Tech, P&I Lab, Yokohama, JAPAN; Kanji Noma, Tokyo Tech, Yokohama, JAPAN.

BB5.33

Abstract Withdrawn

BB5.34

PROCESSING AND CHARACTERIZING RuAl EUTECTICS. Todd Reynolds, David Johnson, Purdue Univ, Dept of Material Engineering, Lafayette, IN.

BB5.35

THE FORMATION OF TWINS AND DEFECT STRUCTURES IN THE FERROMAGNETIC L1₀-ORDERED MANGANESE-ALUMINIDES. Jorg M.K. Wiezorek, Dept of Materials Science and Engineering, University of Pittsburgh, Pittsburgh, PA; William A. Soffa, Dept of Materials Science and Engineering, University of Pittsburgh, Pittsburgh, PA; Cagatay Yanar, Dept of Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; Velemir Radmilovic, NCEM-LBNL, Berkeley, CA; Eric A. Stach, NCEM-LBNL, Berkeley, CA.

BB5.36

Fe TRACER DIFFUSION IN L1₀ ORDERED FePt. Y. Nosé, T. Ikeda, H. Nakajima, The Institute of Scientific and Industrial Research, Osaka University, Ibaraki, Osaka, JAPAN; K. Tanaka and H. Numakura, Department of Materials Science and Engineering, Kyoto University, Kyoto, JAPAN.

BB5.37

ORDERING AND DISORDERING IN ANISOTROPIC L1₀-FePd. Andreas Kulovits, Wolfgang Püschl, Wolfgang Pfeiler, Inst. Materialphysik, University of Vienna, Vienna, AUSTRIA; William A. Soffa, Dept. Mat. Sci. & Eng., University of Pittsburgh, Pittsburgh, PA.

BB5.38

STUDY ON DEFECT STRUCTURES AND PHASE TRANSFORMATIONS OF INTERMETALLIC FeRh ALLOYS INDUCED BY HIGH-SPEED DEFORMATION. Yasunori Kibata, Fuminobu Hori, Ryuichiro Oshima, Osaka Prefecture Univ, Research Institute for Advanced Science and Technology, Sakai, JAPAN; Masao Komatsu, Michio Kiritani, Hiroshima Institute of Technology, Research Center for Ultra-High-Speed Plastic Deformation, Hiroshima, JAPAN.

BB5.39

STOCHASTIC DISLOCATION DYNAMICS: STRAIN LOCALIZATION AND MULTI-FRACTAL BEHAVIOR. Masato Hiratani, Washington State Univ, MME, Pullman, WA.

BB5.40

IN-SITU NEUTRON DIFFRACTION STUDY OF HIGH-TEMPERATURE INTERMETALLIC COMPOSITES. X.-L. Wang and Y.D. Wang, Spallation Neutron Source, Oak Ridge National Laboratory, Oak Ridge, TN; J.H. Schneibel, Metals and Ceramics Division, Oak Ridge National Laboratory, Oak Ridge, TN; J.W. Richardson, Intense Pulsed Neutron Source, Argonne National Laboratory, Argonne, IL.

BB5.41

INTERMETALLIC COMPOUNDS IN THE Zr-Al-Si TERNARY DIFFUSION COUPLES. S.P. Gupta, Department of Materials and Metallurgical Engineering, Indian Institute of Technology, Kanpur, INDIA.

BB5.42

IC COMPONENT LEVEL FAILURE INDUCED BY INTERMETALLIC LAYER STRUCTURAL DEFECTS OF SOLDER JOINT. Ming Sun, M. Loo, and L. Zhao, Philips Semiconductor, San Jose, CA.

BB5.43

THE EFFECT OF UNIAXIAL STRESSES ON THE EQUATION OF STATE AND FAULT FORMATION IN THE INTERMETALLIC ALLOYS UNDER NON-HYDROSTATIC PRESSURE.

John K. Vassiliou^a, J.W. Otto^b, G. Frommeyer^c, Morgan Besson^a, A. Pothireddy^a and J.J. Davis^a; ^aDepartment of Physics, Villanova University, Villanova, PA; ^bJoint Research Center for the European Commission, Brussels, BELGIUM; ^cMPI Eisenforschung, Dusseldorf, GERMANY.

BB5.44

KINETIC CALCULATION OF L1₀ ORDERED SYSTEM BASED ON PHASE FIELD METHOD AND CLUSTER VARIATION METHOD. Munekazu Ohno, Tetsuo Mohri, Hokkaido Univ, Division of Materials Science and Engineering, Graduate School of Engineering, Sapporo, JAPAN.

BB5.45

SUPERCELL AB INITIO CALCULATIONS OF DISLOCATION PEIERLS STRESS. Wei Cai, Babak Sadigh, Vasily V. Bulatov, Lawrence Livermore National Lab, Livermore, CA.

BB5.46

VIBRATIONAL PROPERTIES OF Ni_xPt_{1-x} ALLOYS. Subhradip Ghosh, Paul L. Leath, Morrel H. Cohen, Dept of Physics and Astronomy, Rutgers University, NJ.

BB5.47

THE BEHAVIOR OF Ni-Mn-Ga SINGLE CRYSTALS IN SERIES IN AN ALTERNATING PULSE CIRCUIT APPARATUS. C.A. Jenkins, R.C. O'Handley, S.M. Allen, Massachusetts Institute of Technology, Dept of Materials Science and Engineering, Cambridge, MA.

BB5.48

THE EFFECTS OF TERNARY ELEMENTAL ADDITIONS ON THE SATURATION MAGNETIZATION AND SUCCEPTIBILITY OF NANOCRYSTALLINE FeCo POWDERS. I. Baker, Thayer School of Engineering, Dartmouth College, Hanover, NH; Ryan G. Quiller, Department of Mathematics, Rensselaer Polytechnic Institute, Troy, NY.

BB5.49

THE ROLE OF SHORT RANGE ORDERING AND POINT DEFECTS ON THE MAGNETIC PROPERTIES OF Nd-Fe-Al-BASED MAGNETIC ALLOYS. Israel Betancourt, Raul Valenzuela, National University of Mexico, Institute for Materials Research, Mexico DF, MEXICO.

BB5.50

PHASE STABILITY AND MAGNETIC PROPERTIES OF E2₁-(Co,Ni)₃AlC BASED ALLOYS. Yoshisato Kimura^a, Kaoru Iida^b and Yoshinao Mishima, Tokyo Institute of Technology, Materials Science and Engineering, Yokohama, JAPAN. ^aalso Fellow of Precursory Research for Embryonic Science and Technology, Japan Science and Technology Co., Tokyo, JAPAN; ^bGraduate student now with Konica Co., Tokyo, JAPAN.

BB5.51

PHASE TRANSFORMATION OF Ti-Ni CONTAINING PLATINUM-GROUP METALS. Hideki Hosoda, Kenji Wakashima, Tokyo Tech, P&I Lab, Yokohama, JAPAN; Masahiro Tsuji, Motoki Mimura, Yohei Takahashi, Tokyo Tech, Yokohama, JAPAN; Yoko Yamabe-Mitarai, National Institute for Materials Science, Tsukuba, JAPAN.

BB5.52

PHASE STABILITY AND MECHANICAL PROPERTIES OF Ti(Ni, Ru) ALLOYS. Masahiro Tsuji, Tokyo Tech, Yokohama, JAPAN; Hideki Hosoda, Kenji Wakashima, Tokyo Tech, P&I Lab, Yokohama, JAPAN; Yoko Yamabe-Mitarai, National Institute for Materials Science, Tsukuba, JAPAN.

BB5.53

CHARACTERISTICS OF HYDROGEN ABSORPTION-DESORPTION REACTION IN R-M (R=Y, La, Ce; M=Co, Rh, Ir, Ni, Pd, Pt) BINARY SYSTEMS. H. Mizutani, Kyoto Univ, Kyoto, JAPAN; K. Hirano, Asahi Seiren Co Ltd, Osaka, JAPAN; J. Kadono, S. Nishiuchi, Koyoto Municipal Inst of Ind Res, Kyoto, JAPAN; S. Yamamoto, T. Tanabe, J. Kawai, Kyoto Univ, Dept of Materials Science & Engineering, Kyoto, JAPAN.

BB5.54

THE EFFECT OF ELECTRON IRRADIATION ON THE SYNTHESIS AND PROPERTIES OF THE TRANSITION METALS HYDRIDES. Veniamin Shekhtman, Institute of Solid State Physics, Chernogolovka, RUSSIA; Seda Dolukhanyan, Karen Abraamyan, Anahit Aleksanyan, Nelly Aghajanyan, Hasmik Hakobyan, Ofelia

Ter-Galstyan, Nune Mnatsaknyan, Institute of Chemical Physics, Yerevan, ARMENIA; Khachik Harutyunyan, Yerevan Physics Institute, ARMENIA.

BB5.55

REVERSIBLE HYDROGEN ABSORPTION/DESORPTION AND RELATED LATTICE DEFORMATION OF Ti₃Al BASED ALLOYS IN THE Ti-Al-Nb SYSTEM. Kazuhiro Ito, Lanting T. Zhang, Yoshiharu Okabe, Kyoto Univ, Dept of Materials Science and Engineering, Kyoto, JAPAN; Vijay K. Vasudevan, Univ of Cincinnati, Dept of Materials Science and Engineering, OH; Masaharu Yamaguchi, Kyoto Univ, Dept of Materials Science and Engineering, Kyoto, JAPAN.

BB5.56

IN-SITU X-RAY DIFFRACTION STUDY OF DEFECT-INDUCED PEAK BROADENING IN LaNi₅-BASED ALLOYS. Yumiko Nakamura and Etsuo Akiba, National Institute of Advanced Industrial Science and Technology, AIST Central 5, Tsukuba, JAPAN.

BB5.57

MICROSTRUCTURE-HYDROGEN SORPTION PROPERTY RELATIONSHIPS IN LaNi₅-BASED ALLOYS. Haruyuki Inui, Hiroki Sakamoto, Masaharu Yamaguchi, Kyoto Univ, Dept of Materials Science and Engineering, Kyoto, JAPAN.

BB5.58

BATTERY ELECTRODE MATERIALS BASED ON MgXNi₄. Joachim H. Schneibel, Dewey S. Easton, Oak Ridge National Laboratory, Metals and Ceramics Division, Oak Ridge, TN; Ben S. Chao, Energy Conversion Devices, Troy, MI.

BB5.59

IN-SITU STUDIES OF THE DECOMPOSITION OF L1ALD₄. H.W. Brinks, B.C. Hauback, Institute for Energy Technology, Kjeller, NORWAY; P. Norby, H. Fjellvåg, Dept of Chemistry, University of Oslo, NORWAY.

BB5.60

Abstract Withdrawn

BB5.61

TWO KINDS OF PROCESSING TO PRODUCE THE INTERMETALLIC MATERIALS. Yiyi Li, Kui Liu and Min Liu, Dept. of Special Metals & Alloys, Institute of Metal Research Chinese Academy of Sciences, Shenyang, CHINA.

SESSION BB6: OTHER INTERMETALLICS - II AND FUNCTIONAL INTERMETALLICS
Chairs: Ian Baker and Hamish L. Fraser
Thursday Morning, December 5, 2002
Back Bay B (Sheraton)

8:30 AM *BB6.1

INTERMETALLIC COMPOUNDS AS ELECTRONICALLY DRIVEN MATERIALS. Peter Ladwig, Ying Yang, Y. Austin Chang, Univ of Wisconsin, Dept of Materials Science and Engineering, Madison, WI.

9:00 AM BB6.2

INTERACTIONS OF MECHANICAL TWINNING AND DISLOCATION GLIDE WITH POLYTWIN-INTERFACES IN L1₀-ORDERED IRON-PALLADIUM INTERMETALLICS. Jorg M.K. Wiezorek, Dept. of Materials Science and Engineering, University of Pittsburgh, Pittsburgh, PA.

9:15 AM BB6.3

BRITTLE TO DUCTILE TRANSITION IN INTERMETALLIC ALLOYS. Jeffrey W. Kysar, Department of Mechanical Engineering, Columbia University, New York, NY.

9:30 AM BB6.4

A PEIERLS MODEL OF THE CRITICAL STRESS TO TRANSMIT A SCREW DISLOCATION FROM A DISORDERED TO AN ORDERED PHASE. Peter M. Anderson, Yao Shen, Dept. of Materials Science and Engineering, The Ohio State University, Columbus, OH.

9:45 AM BB6.5

FORMATION AND CHARACTERISATION OF PERIODICALLY STRUCTURED B2 ALUMINIDES THIN FILMS BY LASER INTERFERENCE IRRADIATION. Kaiwen Liu, Frank Mücklick, Functional Materials, Dept of Materials Science, Saarland University, Saarbrücken, GERMANY.

10:00 AM BREAK

10:15 AM *BB6.6

CYCLIC DEGRADATION MECHANISMS IN NiTi SHAPE MEMORY ALLOYS. Hans J. Maier, Alaa El-Mohammadi, University of Paderborn, Lehrstuhl f. Werkstoffkunde (Materials Science), Paderborn, GERMANY; Huseyin Sehitoglu, University of Illinois at Urbana-Champaign, Dept. Mech. & Ind. Eng., Urbana, IL; Ken Gall, University of Colorado, Dept. Mech. Eng., Boulder, CO.

10:45 AM *BB6.7

MAGNETIC DOMAIN OBSERVATIONS IN FERROMAGNETIC SHAPE MEMORY ALLOYS. Marc De Graef, Dept of Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA.

11:15 AM BB6.8

THE INFLUENCE OF IRRADIATION PARAMETERS ON THE BEHAVIOR OF MARTENSITIC TITANIUM NICKEL THIN FILMS. Thomas LaGrange, Swiss Federal Institute of Technology Lausanne (EPFL), Department of Basic Sciences, Institute of Physics of Complex Materials, Lausanne, SWITZERLAND; David S. Grummon, Michigan State University, Department of Chemical Engineering and Materials Science, E. Lansing, MI; Rolf Gotthardt, Swiss Federal Institute of Technology Lausanne (EPFL), Department of Basic Sciences, Institute of Physics of Complex Materials, Lausanne, SWITZERLAND.

11:30 AM BB6.9

NEW CHEMICAL AND MICROSTRUCTURAL EXPLANATIONS FOR MULTIPLE-STEP MARTENSITIC TRANSFORMATIONS IN Ni-RICH NiTi ALLOYS. Jaffar Khalil-Allafi, Antonin Dlouhy, Xiaobing Ren, Gunther Eggeler, Institute of Materials, Ruhr-University Bochum, GERMANY.

11:45 AM BB6.10

THERMOELECTRIC PROPERTIES OF ReSi_{1.75} BASED SILICIDES. J.-J. Gu, K. Kuwabara, H. Inui, M. Yamaguchi, Kyoto Univ, Dept of Materials Science and Engineering, Kyoto, JAPAN; A. Yamamoto, T. Ohta, National Institute for Advanced Industrial Science and Technology, Tsukuba, Ibaraki, JAPAN.

SESSION BB7: HYDROGEN-ABSORBING
INTERMETALLICS

Chairs: Masaharu Yamaguchi and Vijay Vasudevan
Thursday Afternoon, December 5, 2002
Back Bay B (Sheraton)

1:30 PM *BB7.1

DEFECTS GENERATED BY HYDROGEN ABSORPTION/ DESORPTION IN LaNi₅ AND DERIVATIVES. Brigitte Décamps, Jean-Marc Joubert, Laboratoire de Chimie Métallurgique des Terres Rares, CNRS, Thiais, FRANCE; Radovan Cerny, Laboratoire de Cristallographie, Université de Geneve, SWITZERLAND; Annick Percheron-Guégan, Laboratoire de Chimie Métallurgique des Terres Rares, CNRS, Thiais, FRANCE.

2:00 PM *BB7.2

CRYSTAL STRUCTURE AND MORPHOLOGY OF HYDROGEN ABSORBING ALLOYS WITH BCC STRUCTURE. Etsuo Akiba, Hirotohi Enoki, Yumiko Nakamura, National Institute of Advanced Industrial Science and Technology, AIST Central 5, Tsukuba, Ibaraki, JAPAN.

2:30 PM BB7.3

EFFECTS OF ELASTIC STRAIN ENERGIES ON A HYDRIDE PRECIPITATION IN LaNi₅-BASED COMPOUNDS. Katsushi Tanaka, Haruyuki Inui, Masaharu Yamaguchi, Masahiro Koiwa, Kyoto Univ, Dept of Materials Science and Engineering, Kyoto, JAPAN.

2:45 PM BB7.4

Abstract Withdrawn

3:00 PM BB7.5

MICROSTRUCTURE INVESTIGATION OF NANOCOMPOSITE Mg-Fe BASED HYDRIDES. Ennio Bonetti, Luca Pasquini, Lorenzo Savini, Department of Physics, University of Bologna and INFN, Bologna, ITALY; Francesco Cardellini, Amelia Montone, Marco Vittori Antisari, Materials and Technology Unit, ENEA C.R. Casaccia, Roma, ITALY.

3:15 PM BREAK**3:30 PM *BB7.6**

EFFECT OF MICROSTRUCTURE ON THE THERMODYNAMICS AND KINETICS OF HYDROGEN STORAGE. Reiner Kirchheim,

Universität Göttingen, Institut für Materialphysik, Göttingen, GERMANY.

4:00 PM *BB7.7

Zr₂Fe HYDRIDE RESEARCH FOR TRITIUM GETTERING SYSTEMS. Dhanesh Chandra, Michael Coleman, Jennifer Smith, Univ. of Nevada, Metallurgical and Materials Engineering, Reno, NV; Joseph R. Wermer, Los Alamos National Laboratory, Engineering Sciences and Applications Division-Tritium Science and Engineering Group, Los Alamos, NM; E. Andrew Payzant, Oak Ridge National Laboratory, High Temperature Materials Laboratory, Oak Ridge TN; Terrance Udovic, Qingzhen Huang, National Institute of Standards and Technology, NCNR, Gaithersburg, MD.

4:30 PM BB7.8

AMORPHIZATION OF C15 LAVES RFe₂ COMPOUNDS BY HYDROGEN ABSORPTION. Kiyoshi Aoki, Maimaiti Dilixiati, Kazuhiro Ishikawa, Kitami Institute of Technology, Kitami, JAPAN.

4:45 PM BB7.9

HYDROGEN STORAGE IN TITANIUM-MAGNESIUM-NICKEL MIXTURES. Janice K. Lomness, Michael D. Hampton, Department of Chemistry and Lucille A. Giannuzzi, Department of Mechanical Materials and Aerospace Engineering, University of Central Florida, Orlando, FL.