

JIM/ISIJ Special Session at Hiroshima University
“Fundamentals to Control Ultrafine Grained Microstructures”

September 28 (Wed)

10 : 30~11 : 10 Chairperson: Z.Horita (Kyushu Univ.)

J23 <INVITED> The principles of nanostructuring of steel using SPD processing(20),
Ufa State Ariation Tech. Univ, RUSLAN Z. VALIEV

J24 <INVITED> On the Mechanisms Governing the Special Properties of SPD
Nanometals(20) , Univ. Vienna, M. J. Zehetbauer

11 : 20~12 : 00 Chairperson: N.Tsuji (Osaka Univ.)

J25 Microstructural Evolution in 7475 Al Alloy during Warm Severe Forging(20),
UEC Tokyo, *Alexandre Goloborodko, NIMS Oleg Sitdikov, UEC Tokyo
H.Miura, T.Sakai

J26 Tensile mechanical properties of ultra fine-grained magnesium alloys at high
strain rate(20), NIMS, *T.Mukai, H.Somekawa

--Lunch-----

13 : 00~14 : 00 Chairperson: M.Umemoto (Toyohashi Inst. Tech.)

J27 <INVITED> Seven Approaches to Improve the Tensile Ductility of Ultra-fine
Grained and Nanostructured Metals(20) , Johns Hopkins Univ., E. Ma

J28 <INVITED> EFFECT OF EQUAL CHANNEL ANGULAR PRESSING ON
THE MECHANICAL PROPERTIES OF METALS(20), Clausthal Univ. Tech.,
Yuri Estrin

J29 Nanoindentation-induced deformation behavior in the vicinity of single grain
boundary(20), NIMS, *T.Ohmura, K.Tsuzaki

14 : 05~14 : 45 Chairperson: K.Higashida (Kyushu Univ.)

J30 <INVITED> Size Effects in Plasticity: Experiments and Simulations(20), Paul Scherrer Inst., Helena Van Swygenhoven

J31 Mechanical Properties of Nanocrystalline Al and Cu by Molecular Dynamics Simulations(20), Kanazawa Univ., *T.Shimokawa, T.Yoshinari, Y.Shintaku, Osaka Univ., A.Nakatani, Doshisha Univ., H.Kitagawa

14 : 55~15 : 55 Chairperson: K.Hono (NIMS)

J32 <INVITED> New Routes to Synthesize Massive Nanostructured Materials(20), Forschungszentrum Karlsruhe, Gerhard Wilde

J33 Role of strain gradient on the formation of nanocrystalline structure produced by severe plastic deformation(20), Toyohashi Inst. Tech., *M.Umemoto, Y.Todaka, J.Li, K.Tsuchiya

J34 Nonocrystalline structure formed on the worn surface in carbon steel(20), Toyohashi Inst. Tech., *J.Li, M.Umemoto, Y.Todaka, K.Tsuchiya, K.Fujisaki, C. H. Wang

16 : 00~17 : 00 Chairperson: A. Belyakov (NIMS)

J35 Microstructural evolution of pearlite steel severely deformed by surface mechanical attrition treatment(20), National Institute for Materials Science, *Zhang Hongwang, Univ. of Tsukuba, Ohsaki Satoru, National Institute for Materials Science, Hono Kazuhiro, Institute of Metal Research, Lu Ke

J36 <INVITED> Grain Refinement During Severe Plastic Deformation of Steels(20), A. A. Baikov Inst. Metall. Mater. Sci., S. V. Dobatkin

J37 <INVITED> Formation Mechanism of Five-fold Deformation Twins in Nanocrystalline fcc Metals(20), Los Alamos National Lab., Yuntian T. Zhu

September 29 (Thu)

9 : 00~10 : 00 Chairperson: K.Tsuzaki (NIMS)

- J38 Grain Refinement Using Torsion Straining Technique(20), Z.Horita (Kyushu Univ.)
- J39 Bulk nanocrystalline Fe-C steel processed by mechanical milling and spark plasma sintering(20), NIMS, Zhang HW, R. Gopalan., T. Mukai., ○K. Hono.
- J40 Microstructure evolution of mechanically milled martensitic steel powder(20), University of Tsukuba, *S.Ohsaki, NIMS, K.Hono, Kyusyu University, H.Hidaka, S.Takaki

10 : 05~11 : 05 Chairperson: K.Ameyama (Ritsumeikan Univ.)

- J41 Grain Boundary Diffusion as the Controlling Mechanism of Ferrite Grain Size during Large Strain High Z Deformation in Low Carbon Steel(20), NIMS, *Venkata Surya Narayana Murty Susarla, S. Torizuka, K. Nagai
- J42 Influence of Initial Grain Size on the Formation of Ultrafine Ferrite Structure during Large Strain High-Z Deformation in Ultra-Low Carbon Steel(20), NIMS, *Venkata Surya Narayana Murty Susarla, S. Torizuka, K. Nagai
- J43 マルテンサイト法により作製した複相超微細粒鋼の摩擦攪拌接合(20), 香川大, ○上路林太郎, 阪大, 藤井英俊, 崔靈, 野城 清

11 : 10~12 : 10 Chairperson: K.Ameyama (Ritsumeikan Univ.)

- J44 超微細粒鋼の強度-絞りバランスと成形性(20)、物材機構 ○鳥塚史郎, 村松榮次郎, 長井 寿
- J45 超微細粒鋼の切削加工特性(20)、小松精機工作所 ○小松隆史, 物材機構
鳥塚史郎, ヤマト 渡邊芳紀
- J46 超微細粒鋼のガス軟窒化による表面硬化(20) 、丸眞製作所 ○高木伸彦, 高木文人, ヤマト 渡邊芳紀, 物材機構 鳥塚史郎

13 : 00~14 : 00 Chairperson: T.Mukai (NIMS)

- J47 Mechanical Property and Microstructure of Copper Deformed by the ARB Process(20), Osaka Univ., *Bolong Li, N.Shigeiri, N.Tsuji, Y.Minamino
- J48 ARBにより強ひずみ加工を施されたAl-X固溶体合金の組織と機械的性質(20)、阪大工(院生 ○増井稔明, 紙川尚也, 辻 伸泰, 小泉雄一郎, 南埜宜俊
- J49 工業用純Tiの強ひずみ加工に伴う超微細粒組織の形成とその機械的性質(20)、阪大工(院生 ○井上誠哉, 辻 伸泰 南埜宜俊, 産総研 宮野泰征, 阪大接合研 藤井英俊

14 : 10~15 : 10 Chairperson: Y.Todaka (Toyohashi Inst. Tech.)

- J50 超微細粒薄板の創製とその自動車への利用プロジェクトの概要(20)、物材機構 ○津崎兼彰, 中山 箱守一昭, 川重 井上英二, 本田技研 東 雄一
- J51 円周切欠引張試験による塑性加工限界の決定(20)、物材機構 ○榎並啓太郎, 井上忠信, 鳥塚史郎, 長井 寿
- J52 応力3軸度-相当塑性ひずみ破壊評価法の超微細粒薄板のフリーバルジ成形への適用-破壊限界曲線の作成方法の提案-(20)、川重 ○木村 剛, 川野征士郎

15 : 20~16 : 20 Chairperson: S.Torizuka (NIMS)

- J53 超微細粒鋼の応力-ひずみ関係におよぼす温度とひずみ速度の影響(20)、兵庫県立大 ○土田紀之, 茨城大 友田 陽, 物材機構 長井 寿
- J54 超微細粒薄板電縫管の高速圧潰シミュレーション(20) 、本田技研 ○興津貴隆, 東 雄一
- J55 強加工によるTiNi系形状記憶合金の非晶質化/ナノ結晶化とマルテンサイト変態(20)、豊橋技科大 ○土谷浩一, Dacian TOMUS, 兵庫県立大 原田泰典, 豊橋技科大 戸高義一, 梅本 実

16 : 30~17 : 10

Chairperson: R.Ueji (Kagawa Univ.)

J56 Deformation of Nanocrystalline Al Alloys investigated by Nanoindentation(20),
Korea Institute of Industrial Technology, *Jang Jin Man, Lee Wonsik, Ko
Se-Hyun

J57 A Study on Compressive Deformation behaviors in Nanocrystalline Al Alloys(20),
Korea Institute of Industrial Technology, *LEE Wonsik, Jang Jin Man, Ko
Se-Hyun, Lee Chang-Woo

September 30 (Fri)

9 : 00~10 : 00 Chairperson: N.Tsuji (Osaka Univ.)

- J58 鉄基合金圧延材における変形双晶による微細組織形成とその引張挙動への影響(20)、九大工 ○森川龍哉, (院生) 砂山善則, (現:コベルコ科研) 諸永 拓, 工 東田賢二
- J59 ARBによる強ひずみ加工と焼鈍を施されたCu-30%Zn合金の組織と機械的性質(20)、阪大工(院生)○重入直太, 工辻 伸泰, 南埜宜俊
- J60 High Temperature Deformation Behavior and Microstructure Change in Nano-Grain Composites(20)、九大応力研 ○宮野公樹, 立命館大(院生) 熊谷悠輔, 吉本正義、滋賀大 磯西和夫, 立命館大理工 飴山 恵