

## Poster Session

November 10 (15 : 00~17 : 00)

E5 building (8F), Innovation room

### 1) Electronic & Information Materials

1-1 The power generation properties of p-type  $\text{Mg}_2\text{Si}_{0.25}\text{Sn}_{0.75}$

Mitsuba Corporation, Satoki Tada

1-2 Effect of applied field direction on magnetic cluster state of perpendicular recording media

Ibaraki University, Shohei Sato

1-3 Effect of interlayer magnetization reversal process in ECC media with high coercivity

Ibaraki University, Akihiro Oyama

1-4 Dependence of critical current density on domain wall width for current-induced domain wall motion in nanowires

Ibaraki University, Makoto Ito

1-5 Numerical study of effect of scattering process on transport properties in Bi nanowire

Ibaraki University, Tetsuya Horie

1-6 Influence of Pt content on magnetic domain structure of CoPt films

Ibaraki University, Ryusuke Tojo

1-7 First principle study of hcp Co with stacking faults

Ibaraki University, Kazuki Iwai

1-8 Observation of chip damage caused directly under the Al-Cu thick wire bonding

Ibaraki University, Mitsuru Gunji

1-9 Evaluation of nano structure and Cu wiring formation using Diallylamine Additives

Ibaraki University, Takuya Arayama

1-10 Influence of heating rate and the ratio of the plating thickness and the depth of the wire on the nanostructure of fine copper wire

Ibaraki University, Hisashi Siraishi

- 1-11 Development of Al-Mg-Cu wire bonding technology for the high-temperature power semiconductor  
Ibaraki University, Wenzhe Li
- 1-12 Crystal nano structure evaluation of Cu wiring material produced by high-speed repetition heat-treatment  
Ibaraki University, Takahiro Yokoyama
- 1-13 Grain size and texture investigation of Cu wire formed with additive-free plating by EBSD  
Ibaraki University, Yiqing Ke
- 1-14 Effect of the impurity elements addition to resistibility of the high purity Cu wires and nanostructure  
Ibaraki University, Haruka Takagi
- 1-15 Visible Light Communication of Sound Signal using Flip-Flop  
Ibaraki University, LI ZIYING
- 2) Precision Machinery Engineering & MEMS**
- 2-1 Development of Portable CO<sub>2</sub> monitoring System  
Ibaraki University, CHILIN LIU
- 2-2 Portable spectroscopic measurement system for water monitoring  
Ibaraki University, LIANG WANG
- 2-3 Human activity measurement system using Arduino  
Ibaraki University, LU ZHAI
- 2-4 Estimation of Affinity of impurity elements in (100) grain of Very Narrow Cu Wires  
Ibaraki University, Tetsunori Tsumuraya
- 2-5 Molecular dynamics simulation of grain growth of Cu film  
Ibaraki University, Yuki Kimura

### **3) Nano Process & Device Engineering**

3-1 Effect of surface relief on behavior of hydrogen in a tensile-deformed Al-9%Mg alloy

Ibaraki University, Ryoto Koyama

### **4) Life science & Bio-molecular Science**

4-1 Biphenyl degradation with *Synechocystis* sp. PCC6803 containig NADPH-specific BphA protein genes

Ibaraki University, Akari Ohtsuka

### **5) Nano Scale Analysis of Materials and Devices**

5-1 Visualization of hydrogen in electrolytically charged aluminum alloys under stress loading

Ibaraki University, Masahiko Nakano

5-2 Assessment of the resistance to hydrogen embrittlement of some 6000 series aluminum alloys with excess Si by internal pressure type and moist air

Ibaraki University, Hiroaki Hayase

5-3 Behavior analysis of diffusible hydrogen in a stainless steel with the use of hydrogen microprint technique

Ibaraki University, Katsuhiro Saitou

5-4 Visualization of hydrogen in electrolytically charged SUS304 steel

Ibaraki University, Nobuhiro Miyata

5-5 Visualization of hydrogen in electrolytically charged stainless steels under stress loading

Ibaraki University, Genya Sekimura

5-6 Behavior analysis of hydrogen in an SUS430J1L steel by hydrogen microprint technique

Ibaraki University, Yuya Masuda

5-7 Molecular dynamics simulation of fast particle irradiation to the single crystal CeO<sub>2</sub>

Ibaraki University, Naoki Ajima

5-8 Computer simulation of high-energy-beam irradiation of uranium dioxide

Ibaraki University, Takuya Osada

5-9 Estimation of microstructure and hardness during cold forging  
Ibaraki University, Kyotaro Kurata

5-10 Examination of the tempering conditions by the difference in a hardening behavior  
Ibaraki University, Kensuke Tanaka

## **6) Nano Scale Structure Controlled Material**

6-1 High temperature internal friction and mechanical properties of gold nanocrystalline  
Ibaraki University, Kyohei Yamamoto

6-2 The situation of He bubbles in Au nanocrystalline that annealed at high temperature  
Ibaraki University, Junki Idei

6-3 The micro-hardness and thermal stability of nanocrystalline gold prepared by gas  
deposition method  
Ibaraki University, Youhei Takada

6-4 Evaluation of microstructure during plastic deformation  
Ibaraki University, Kouji Shiba

6-5 Estimation of microstructure in Stack-bonded Copper plate produced by using Friction Stir  
Processing Technology  
Ibaraki University, Yuuta Itou

6-6 Anisotropic behavior of strain age hardening in IF steel  
Ibaraki University, Ryosuke Sekine

6-7 Stack Bonding of Copper Plates by Friction Stir Processing  
Ibaraki University, Takashi Shioi

6-8 Nano structure evaluation of a low resistivity Ru film which carried out low-temperature  
formation  
Ibaraki University, Atsushi Sato

6-9 Preparation of a Surface Porous Polymer Film Templated by Gold Nanoparticles  
Fukushima National College of Technology, Haruka Suzuki

## 8) Others

- 8-1 Computer Experiments on Generation and Propagation of Toda Soliton in the One-dimensional Nonlinear lattice and Two-dimensional square lattice  
Ibaraki University, Yuki Yamada
- 8-2 Degradation of molybdenum electrodes for fusing joining affected their microstructure  
Ibaraki University, Syuhei Iijima
- 8-3 3D microstructure evaluation in Inconel/low alloy steel welded component using a serial section method  
Ibaraki University, Shin Daikuhara
- 8-4 Evaluation of strength and measurement of working strain on press forming of steel sheet  
Ibaraki University, Tomohiro Hasegawa
- 8-5 Measurement and analysis of sensitivity distribution in thermal diffusivity measurement of planar material by periodic laser spot heating  
Ibaraki University, Wataru Nakano
- 8-6 Thermal Conductivity Measurements of Some Synthetic CaO-Na<sub>2</sub>O-SiO<sub>2</sub> Slags  
Ibaraki University, Takaya Kowatari
- 8-7 THERMAL DIFFUSIVITY MEASUREMENT METHOD FOR PERIODIC LASER SPOT HEATING TO CONSIDERING THE LASER DIAMETER AND SENSITIVITY DISTRIBUTION OF THE PLANAR MATERIAL.  
Ibaraki University, Shun Nakayama
- 8-8 Study on Structure of Silicate Melt Containing CaF<sub>2</sub> at High Temperature by Measuring Thermal Conductivity  
Ibaraki University, Hiroki Hasegawa
- 8-9 Magnetization of High Tensile Strength Steel Sheet in Tensile Test  
Ibaraki University, Machi Iwabuchi
- 8-10 Magnetization of Sheared Edges in High-Tensile Steel Sheet  
Ibaraki University, shuto Watanabe

- 8-11 Ab initio calculation of interface segregation at a-SiGe/SiGe  
Ibaraki University, Shousei Yamada
- 8-12 Estimation of Affinity of impurity elements in (111) grain of Very Narrow Cu Wires  
Ibaraki University, Daiki Eguchi
- 8-13 Ab-initio calculation of (101) and (100) surface for  $\beta$ -FeSi<sub>2</sub>  
Ibaraki University, Ryo Nemoto
- 8-14 Computer Simulation of Precipitation Process in Si / Ge Amorphous Multilayer Films  
Ibaraki University, Junya Murakami
- 8-15 Acceleration of Ferrite Transformation by TMCP Studied with *In Situ* Neutron Diffraction.  
Ibaraki University, Kazuki Takahashi
- 8-16 In situ characterization of tempering behavior for high nitrogen martensite stainless steel using neutron scattering  
Ibaraki University, Haruki Kamada
- 8-17 Effect of Si addition and grain size on the plastic deformation of Fe-Si alloy  
Ibaraki University, Luo Hongyan
- 8-18 pH/pD-dependent decay signaling state in blue-light photoreceptor AppA  
Ibaraki University, Takahiro Kojima
- 8-19 Action to the minute abrasive dispersion using the PELID method  
Ibaraki University, Tatsuya Watahiki
- 8-20 DERIVING OF THERMAL DIFFUSIVITY OF LAYER STACK SAMPLE USING AREAL HEAT DIFFUSION TIME METHOD  
Ibaraki University, Keisuke Ohnuma
- 8-21 Measurement of thermal effusivity of borosilicate melt  
Ibaraki University, Yasuhiro Shiroki

8-22 Analysis of Three-Dimensional Heat Flow by Modulated Spot Heating Using a Phase Lag Matrix with a Combination of Thermal Effusivity and Volumetric Heat Capacity

Ibaraki University, Shinichiro Yokoyama

8-23 DETERMINATION PROCEDURE OF THERMAL EFFUSIVITY USING MOLYBDENUM THIN FILM WITH LOW THERMAL CONDUCTIVITY FOR THERMAL MICROSCOPE

Ibaraki University, Kouhei Taguchi