

## 2009 年度業績 — 桐原 聡秀

### 学術論文・解説記事

1. Zhongqi Shi, Mohamed Radwan, Soshu Kirihara, Yoshinari Miyamoto, Zhihao Jin, Enhanced Thermal Conductivity of Polymer Composites Filled with Three-dimensional Brush-like AlN Nanowhiskers, *Applied Physics Letters*, 95(23), 224101-1-224101-3, 2010
2. Soshu Kirihara, Structural Joining of Ceramics Nanoparticles: Development of Photonic Crystals for Terahertz Wave Control by Using Micro Stereolithography, *KONA Powder and Particle Journal*, 27, 107-118, 2009
3. Soshu Kirihara, Kota Tsutsumi, Yoshinari Miyamoto, Localization Behavior of Microwaves in Three-Dimensional Menger Sponge Fractals Fabricated from Metallodielectric Cu/Polyester Media, *Science of Advanced Materials*, 1(2), 175-181, 2009
4. Soshu Kirihara, Daisuke Sano, Masaru Kaneko, Smart Processing in Materials Tectonics: Fabrication of Photonic Crystal and Fractals for Terahertz Wave Control by Using Micro-stereolithography, *Tsinghua Science and Technology*, 14(1), 160-163, 2009
5. Soshu Kirihara, Masaru Kaneko, Toshiki Niki, Terahertz Wave Behaviors in Dielectric Micro Patterns with Polygon Tablets Fabricated by Spatial Joining of Stereolithography, *Journal of Physics: Conference Series*, 165(1), 12082-1-12082-6, 2009
6. Toshiki Niki, Soshu Kirihara, Fabrication of Terahertz Wave Resonators of Twinned Photonic Crystals with Alumina Diamond Lattices by Using Micro-stereolithography, *Ceramic Interconnect and Ceramic Microsystems Technology*, 5, 106-111, 2009
7. Soshu Kirihara, Noritoshi Ohta, Toshiki Niki, Masaru Kaneko, Materials Tectonics by Structural Joinings: Fabrication of Ceramics Micro Patterns with Dielectric Polygon Tablets for Terahertz Wave Resonations by Using Stereolithography, *Ceramic Interconnect and Ceramic Microsystems Technology*, 5, 143-148, 2009
8. Yuta Yamamoto, Soshu Kirihara, Development of WC-Co/SUS304 Functionally Graded Materials by Using Three Dimensional Micro Welding, *Materials Science Forum*, 631-632, 265-270, 2009
9. Daisuke Sano, Soshu Kirihara, Fabrication of Metal Photonic Crystals with Graded Lattice Spacing by Using Micro-stereolithography, *Materials Science Forum*, 631-632, 287-292, 2009
10. Daisuke Sano, Soshu Kirihara, Microwave Emission from Metal Photonic Crystals Fabricated by Using Stereolithography, *Ferroelectrics*, 388, 23-30, 2009
11. Masaru Kaneko, Soshu Kirihara, Millimeter Wave Control Using TiO<sub>2</sub> Photonic Crystal with Diamond Structure Fabricated by Micro-stereolithography, *Materials Science Forum*, 631-632, 293-298, 2009

12. Soshu Kirihara, Terahertz Wave Properties of Ceramic Photonic with Graded Structure Fabricated by Using Micro-stereolithography, Materials Science Forum, 631-632, 299-304, 2009
13. Soshu Kirihara, Toshiki Niki, Masaru Kaneko, Three-Dimensional Material Tectonics for Electromagnetic Wave Control by Using Micro-Stereolithography, Ferroelectrics, 387, 102-111, 2009

#### 国際会議プロシーディングス

1. Mitsuyori Suwa, Soshu Kirihara, Taiji Sohmura, Fabrication of Glass Coated Ceramic Dental-Crown Models Through Stereolithography of Structural Joining Processes, Proceedings of International Conference on Welding Science and Engineering, 142-144, 2009
2. Toshiki Niki, Soshu Kirihara, Fabrication of Twinned Photonic Crystals with Alumina Diamond Lattices for Terahertz Wave Resonators by Structural Joining, Proceedings of International Conference on Welding Science and Engineering, 145-147, 2009
3. Masaru Kaneko, Soshu Kirihara, Millimeter Wave Properties of Titania Photonic Crystals with Diamond Structures Fabricated by Using Micro-stereolithography, Proceedings of the 33rd International Conference Advanced Ceramics and Composites, 30(8), 157-164, 2009
4. Soshu Kirihara, Yohei Takinami, Yuta Yamamoto, Toshihide Horii, Freeform Fabrications of Metal and Alloy Components with Structural and Compositional Distributions through Micro Welding Tectonics, Proceedings of Materials Science and Technology, ISBN-13:978-1-61503-4, 2619-2626, 2009

#### 著書

1. 桐原聡秀, 究極のかたちをつくるー粉が織り成す次世代モノづくりー, 日刊工業新聞社, 2009, 136-143, 244-249

#### 受賞

1. Soshu Kirihara, Global Star Award of The American Ceramic Society, 2009.7.23
2. 桐原聡秀, 日本セラミックス協会関西支部学術講演奨励賞, 2010.1.25

#### シンポジウム開催状況

1. The Third International Conference on the Characterization and Control of Interfaces for High

Quality Advanced Materials, and Joining Technology for New Metallic Glasses and Inorganic Materials (ICCCI 2009), 主な招待講演者: Prof. Nicolas Eustathopoulos, LTPCM, France/Prof. Alfons Fischer, Univ. Duisburg-Essen, Germany/Prof. Manfred Rühle, MPI für Metallforschung, Germany/Dr. Mrityunjay Singh, NASA, USA/Dr. Natalia Sobczak, Foundry Research Institute, Poland, 参加人数 167(外国人参加者数 60)

2. International Symposium on Advanced Materials Design and Processing (AMDP), 主な招待講演者: Prof. Antoni Tomsia, Lawrence Berkeley National Lab., USA/Dr. Natalia Sobczak, Foundry Research Institute, Poland/Dr. Stephen Freiman, Freiman Consulting Inc., USA, 参加人数 50(外国人参加者数 22)

#### 特許権などの知的財産権

1. 三次元周期構造体およびその製造方法, 発明者: 宮本欽生, 桐原聡秀, 他 1 名, 特許第 4454770 号