

国内共同研究員との共著査読付学術論文(2025年度)

- (1) "SPH Simulation of Molten-Fluid Flows with a Plastic Surface Skin: A Lava-Flow-Oriented Model Study"
Appl. Sci. (2026)
S. Tomita, T. Sato, S. Murakami, J. Yoshikawa, M. Sugimoto, H. Komen and M. Shigeta
- (2) "Photocatalytic Decomposition of Methylene Blue Using a Zinc-Tungsten Oxide Compound Prepared by Co-Sputtering and Calcination"
Jpn. J. Appl. Phys., 64 (2025), 04SP07/1-04SP07/5.
S. Kakuta, K. Takenaka, M. Takahashi, Y. Setsuhara and T. Okada
- (3) "Low-temperature Deposition of Crystalline IGZO Films Using High-Power Pulsed Magnetron Sputtering"
J. Appl. Phys., 138 (2025), 085302/1-085302/8.
K. Takenaka, T. Nagata, K. Ota, Y. Setsuhara and T. Ohta
- (4) "Effect of Atmospheric Pressure Non-Equilibrium Plasma Pre-Treatment on Adhesive Bonding of SPFC980Y and Polyethylene / Polypropylene"
Plasma Processes and Polymers, 22, 10 (2025), e70072/1-e70072/9.
K. Takenaka, R. Koyari, S. Shigemori, G. Uchida and Y. Setsuhara
- (5) "Effect of Surface Treatment Using Non-Thermal Atmospheric Pressure Plasma Jet on Dissimilar Material Direct Joining Using Polyetheretherketone"
Surf. Interfaces, 79 (2025), 108187/1-108187/9.
K. Takenaka, S. Nakamoto, M. Shimabukuro, A. Jinda, R. Koyari, S. Shigemori, K. Ueno, S. Toko, G. Uchida, M. Kawashita and Y. Setsuhara
- (6) "Effective Use of Molecular Sieves for Methanation with Plasma Catalysis"
Jpn. J. Appl. Phys., 64 (2025), 076003.
S. Toko, K. Takenaka, K. Koga, M. Shiratani, M. Ozawa and Y. Setsuhara
- (7) "Microstructures and Mechanical Properties of FSWed Fe-xAl and Fe-0.1C-xAl Alloys"
J. Mater. Res. Technol-JMRT, 36 (2025), 888-902.
J. Chen, T. Miura, K. Ushioda and H. Fujii
- (8) "Elucidating Deformation Behavior of Cementite and κ -Carbide during Friction Stir Welding of Fe-0.1C-xAl (x = 0.05 and 5 Mass%) Steels below A1"
Mater. Charact., 225 (2025), 115205.
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- (9) "In Situ Synchrotron X-ray Imaging of Curved Columnar Growth and Ripple Formation in Fe-Mn-Cr-Ni-Si Alloy during GTA Welding"
Sci. Technol. Weld. Join., 30, 4 (2025), 296-304.
T. Nagira, H. Kitano, T. Kimura, F. Yoshinaka, S. Takamori, T. Sawaguchi, T. Yamashita, Y. Aoki and H. Fujii
- (10) "In Situ Synchrotron X-ray Imaging of Curved Columnar Growth and Ripple Formation in Fe-Mn-Cr-Ni-Si Alloy during GTA Welding"
Sci. Technol. Weld. Join. (2025)
T. Nagira, H. Kitano, T. Kimura, F. Yoshinaka, S. Takamori, T. Sawaguchi, T. Yamashita, Y. Aoki and H. Fujii
- (11) "Easy Dismantling of Steel/aluminum Alloy Die-Casting Joint by Foaming Using Gas Defects in Aluminum Alloy Die-Casting"
Mater. Lett., 386, 138236 (2025)
Y. Hangai, T. Ishigai, S. Koyama, R. Suzuki, Y. Morisada and H. Fujii
- (12) "Cold Spot Joining of Galvannealed DP780 Mpa Steel Sheets"
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- (13) "Process Parameter Optimization and Bonding Mechanism in Dissimilar S45C/A6061 Joints via Novel Sacrificing-Sheet Linear Friction Welding"
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- (14) "Fe-15Mn-10Cr-8Ni-4Si制振ダンパー合金の摩擦攪拌接合"
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柳樂 知也, 中村 照美, 澤口 孝宏, 森 正和, 森貞 好昭, 藤井 英俊
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Mater. Today Commun., 50 (2026), 114548.
Y. Hangai, T. Ishigai, S. Koyama, R. Suzuki, T. Suzuki, Y. Morisada and H. Fujii
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- (17) " $\alpha + \beta$ 型 (Near β 型) Ti-17合金線形摩擦接合継手の組織と機械的性質"
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J. Chen, T. Miura, K. Ushioda, A. Sharma and H. Fujii
- (19) "窒化珪素製の半球状ツールを用いた鉄鋼材料の傾斜摩擦攪拌接合"
鉄と鋼, 111, 17 (2025), 1035-1045.
森 正和, 野田 能修, SHARMA Abhishek, 森貞 好昭, 藤井 英俊
- (20) "In-situ Observation of Melting Behavior of Al-6.4Si Alloy with Spherical Primary Crystal by SIMA Process"
Mater. Trans. (2025)
N. Tsuchida, S. Takamatsu, K. Kadoi and S. Suzuki
- (21) "Fatigue Limit Estimation Based on Dissipated Energy for Al/Al and Al/Steel Friction Stir Welding Joints"
Exp. Mech. (2026)
Y. Ogawa, T. Hidaki, H. Tatebayashi, M. Hayashi, K. Kadoi, D. Shiozawa, T. Sakagami and E. Yukutake
- (22) "Murataite Ceramics – Mineral, Structure, Synthesis and Applications"
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Y. Suzuki and H. Abe
- (23) "Quasi-one-dimensional Magnetism of Transition-Metal Oxide in Fe-based Inorganic-organic Hybrid Nanosheets"
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T. Nakane, T. Naka, K. Sato, N. Terada, P. Manuel, A. Ibrahim, S. Kubuki, C. Numako, D. Khalyavin, A. D. Visser and H. Abe
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T. Kozawa, R. Fujiwara, K. Fukuyama, K. Yoshida, S. Usuki, M. Kawashita, K. Hoshino, S. Ota and H. Abe

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K. Tomozawa, R. Suwa, T. Kozawa, T. Higo, M. Yamaoka, K. Sumiyoshi, N. Tsunoji, T. Ueda and S. Ogo

(26) "Top-Down Stereolithography-Based System for Additive Manufacturing of Zirconia for Dental Applications"
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国際共同研究員との共著査読付学術論文(2025年度)

- (1) "Metal Flow Mechanisms during Alternating Current Arc Welding and Additive Manufacturing of Aluminium Alloy"
Commun. Mater., 6 (2025), 94.
B. Xu, C. Zhang, G. Zhang, F. Jiang, S. Tashiro, M. Tanaka and S. Chen
- (2) "A Physics-Informed and Data-Driven Framework for Robotic Welding in Manufacturing"
Nat. Commun., 16 (2025), 4807.
J. Liu, F. Jiang, S. Tashiro, S. Chen and M. Tanaka
- (3) "Achieving Deep Penetration Welding of Nitrogen-Containing Stainless Steel Using Two-GTA Doped with Oxygen and Nitrogen"
J. Manuf. Process., 153 (2025), 82-98.
X. Wang, H. He, H. Xu, S. Tashiro and M. Tanaka
- (4) "Effect of External Magnetic Field on Arc Characteristics and Weld Bead Formation in Metal-Cored Arc Welding"
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- (5) "Numerical Study on the Short Circuit Aluminum Alloy MIG Welding Metal Transfer Behavior Including the Influence of Wire Feeding and Melting"
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- (6) "Elucidation of Metal Transfer Behavior of Metal-Cored Arc Welding under the Pulsed Welding Current"
Continuum Mech. Thermodyn., 38 (2026), 33.
V. H. Bui, Q. N. Trinh, S. Tashiro, D. K. Le, K. A. D. Nguyen, A. B. Murphy, K. Yamanaka and M. Tanaka
- (7) "Effect of Flux Composition on Metal Transfer Characteristics in Rutile-type Flux-Cored Arc Welding"
Int. J. Adv. Manuf. Technol. (2026)
D. K. Le, S. Tashiro, K. A. D. Nguyen, Q. N. Trinh, T. Suga, N. Sawamura, K. Fukuda, S. Sasakura, P. F. Mendez, A. B. Murphy, V. H. Bui and M. Tanaka
- (8) "Effect of Additional Underneath Magnetic Field on Joining Mechanism of Aluminum Alloy to Galvanized Steel Joints in Pulsed Current Gas Metal Arc Welding"
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S. M. Hong, T. Shinichi, H.-S. Bang, Y. Kenta, T. Manabu and I. Kazuhiro

- (9) "Effect of Lap Joint Configuration and Seam Strategy in Green-Laser Welding on Multi-Layer Cu Foil Stacks to Lead-Tab Joints for Pouch Cell Application"
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- (10) "Joining Characteristics of 60-Layered Cu Foil Stack Using Linear Vibration Ultrasonic Welding"
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- (11) "The Influence of Laser-Induced Tempering on the Microstructure and Mechanical Properties of 1500 MPa Martensitic Steel Friction Stir Welded Joints"
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S. Zhu, X. Zhu, W. Lv, L. Cen, M. Gao, Y. Sun, L. Wu, H. Fujii and S. Guan

- (12) "Dynamic Recrystallization, Textural Evolution, and Strengthening Mechanism of Medium-Mn Steel Subjected to Friction-Stir Welding (FSW)"
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- (13) "Dependence of Friction-Stir Welding on Mechanism of Hydrogen Embrittlement in Medium-Mn Steel with Triplex-Phase Microstructure"
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K.-M. Kwon, S. Gong, H.-J. Kim, H. Fujii, S.-E. Shin and S.-J. Lee

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J. Mater. Process. Technol., 339 (2025), 118824.
H. Liu, J. Li, H. Huang, Z. Wu, Y. Ma, Y. Li, Y. Morisada and H. Fujii

- (15) "Microstructure Characteristics and Joining Mechanisms of Double-Sided FSSWed Ultra-High Strength Lightweight Steel and Mild Steel"
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- (16) "Influence of Welding Speed on Mechanical Properties and Fracture Behaviour of Friction Stir Welded Haynes® 282 Ni Superalloy"
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- (17) "Diffusion-dependent Microstructure and Mechanical Properties of Ti-50Ta Alloy via Powder Metallurgy"
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S. Wang, S. Lai, S. Li, D. Hui, H. Liu, C. Tana, S. Zhou, X. Zhang, B. Li, K. Kondoh, J. Umeda, A. Issariyapat, S. Kariya, J. Han and D. Zhang

- (18) "Exceptional Metallurgical Bonding Mechanism via Nano-thick Layer of Interfacial Solid Solution in Dissimilar Welding"
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X. Zhuo, H. Ya, K. Chen, K. Kondoh, L. Peng, M. Wang, X. Hua and A. Shan
- (19) "Developing Pure Titanium with 1 GPa Tensile Strength and 24 % Elongation by Interstitial Oxygen Doping"
Mater. Charact., 228 (2025), 115362.
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- (20) "Mechanistic Insight into Cooling-Rate-Driven Bubble Evolution and Interfacial Bonding Strength in Directly Bonded Ti-PET Materials"
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K. Kondoh, N. Nishimura, K. Shitara, S. Kariya, K. Chen, A. S. B. Najib and J. Umeda
- (21) "Unlocking Strength-Ductility Synergy in Laser Additive Manufacturing of Ti-Cu Alloys via Core-Shell Feedstock Design"
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- (23) "Heterogeneous-phase-mediated Plastic Deformation and Phase Transformation of Titanium upon Deviatoric Stress"
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- (24) " $\alpha+\beta$ 2相Ti-Fe焼結圧延材の力学特性と異方性解析"
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- (25) "Ultrastrong and Ductile Hierarchical Heterostructured Titanium Composites from Room to High Temperatures"
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- (26) "Strengthening and Toughening Behavior of Al-Si-Ti Composite Systems with Microstructure Evolution of In-Situ Reinforcements"
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- (30) "Microstructure and Strengthening Mechanism of Powder Metallurgy Extruded Titanium Alloys with Carbon Solid Solution"
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- (31) "Microstructure and Strengthening Mechanism of Fe-Supersaturated α Titanium Alloy Produced by Laser Powder Bed Fusion"
Mater. Trans., 66, 10 (2025), 1313-1318.
S. Kariya, A. Issariyapat, A. Bahador, M. Qian, J. Umeda and K. Kondoh
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Mater. Trans., 66, 10 (2025), 1287-1296.
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- (33) "Identification of Strengthening Factors in Hot-Rolled Dual Phase PM Ti-Fe Alloys by a Machine Learning Approach"
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Nat. Commun., 16 (2025), 10833.
Y. Yang, X. Wang, B. Chen, S. Lu, K. Liu, S. Kariya, X. Shi, X. Liao, K. Kondoh, M. Qian and J. Shen
- (35) "Microstructures in Heat Treated LPBF Ti-6Al-4V Alloys after α' phase Decomposition and Their Mechanical Properties"
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- (36) "Microstructural Formation Mechanism of $\alpha+\beta$ Dual Phase Ti-Fe Sintered Alloys via Hot Rolling Process"
Mater. Trans., 67, 3 (2026), 191-197.
S. Kariya, T. Tanaka, J. Umeda, Y. Yang, S. Li, A. Khantachawana, A. Bahador and K. Kondoh
- (37) "Microstructure, Element Distribution and Interfacial Properties of Laser Welded Iron–nickel–steel Dissimilar Joints"
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R. Geng, N. Ma, D. Nishimoto, R. Zhang, F. Lu and Z. Li
- (38) "Microstructural Features Governing the Strength of Immiscible Fe–Mg Joints Formed by Eutectic Melt-Induced Liquid Metal Dealloying"
Acta Mater. (2026)
K. Kurabayashi, H. Zhou, Y. Mikami, T. Wada and H. Kato
- (39) "Tuning the Size of TiC Plates in Additive Manufactured Titanium Matrix Composites by Laser Heat Input and Its Effect on Strengthening Effect"
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- (40) "Strength Enhancement of $\alpha + \beta$ Dual Phase Ti-4Fe Alloys with Rhenium Addition at Room and High Temperatures"
Mater. Des., 256 (2025), 114278.
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- (41) "コアシェル構造Ti–TiN多孔質焼結複合材の摩擦摩耗特性"
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