

Kota Fujimoto

PHD STUDENT

The University of Tokyo, Kashiwa, Japan

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Education

The University of Tokyo

PHD ENGINEERING

- Advisor: Dr. Hiroshi Fujimoto

Kashiwa, Japan

2023 - present

The University of Tokyo

MSC ADVANCED ENERGY

- Advisor: Dr. Hiroshi Fujimoto

Kashiwa, Japan

2021 - 2022

The University of Tokyo

BENG AERONAUTICS AND ASTRONAUTICS

- Advisor: Dr. Koji Uenishi

Tokyo, Japan

2017 - 2020

Publications

PUBLISHED

Takuma Katagiri, Kentaro Yokota, **Kota Fujimoto**, Sakahisa Nagai, Hiroshi Fujimoto, “Wind Tunnel Verification of Velocity Control in Wing Coordinate System Using Acceleration-Based Disturbance Observer for Tilt-Wing eVTOL,” *IEEJ Journal of Industry Applications*, Vol. 14, No. 2, 2025.

IN REVIEW

Kota Fujimoto, Hiroshi Fujimoto, Yoshihiro Isaoka, Yuki Terada, “High Precision Control for Twin-Drive Machine Tool Based on Mode Decoupling with Virtual Viscosity,” *IEEE/ASME Transactions on Mechatronics*, Vol. 30, No. 4, 2025.

IN PREP

Kota Fujimoto, Hiroshi Fujimoto, Alessandro Correa Victorino, Pedro Castillo, “Energy Maximum Trajectory Generation Focusing on Motion Dynamics for In-Flight Inductive Power Transfer of Drones,” *IEEE Journal of Emerging and Selected Topics in Industrial Electronics*, 2025.

Conference and Presentation

PEER-REVIEWED

Kota Fujimoto, Hiroshi Fujimoto, Yoshihiro Isaoka, Yuki Terada, “High Precision Control for Parallel Twin-Drive Machine Tool System Based on Offline Parameter Identification Focusing on Differential Mode,” in *The 11th IEEJ international workshop on Sensing, Actuation, Motion Control, and Optimization (SAMCON)*, Shimane, Japan, 2025.

Kota Fujimoto, Osamu Shimizu, Hiroshi Fujimoto, Jin Katsuya, Tetsu Sato, “Feasibility Study for Dynamic Wireless Power Transfer in Simulation with Big Data Focusing on Battery Capacity Requirement of Electric Vehicles,” in *the 27th edition of the International Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM)*, Ischia, Italy, 2024, doi: 10.1109/SPEEDAM61530.2024.10609208.

Sakahisa Nagai, Yusuke Satoh, **Kota Fujimoto**, Hiroshi Fujimoto, “Sensorless Drone Detection for In-Flight Inductive Power Transfer Using Transmitter-Side Voltage Pulses,” in *IEEE 2024 Wireless Power Technology Conference and Expo (WPTCE)*, Kyoto, Japan, 2024, doi: 10.1109/WPTCE59894.2024.10557296.

Takuma Katagiri, Kentaro Yokota, **Kota Fujimoto**, Sakahisa Nagai, Hiroshi Fujimoto, “Basic Study on Velocity Control in Wing Coordinate System Using Acceleration-based Disturbance Observer for Tilt-wing eVTOL,” in *The 10th IEEJ international workshop on Sensing, Actuation, Motion Control, and Optimization (SAMCON)*, Kyoto, Japan, 2024.

Shogo Yamada, **Kota Fujimoto**, Hiroshi Fujimoto, “Basic Study on Robust Perfect Tracking Control Based on Parameter Estimation Reducing Outlier Effects,” in *The 10th IEEJ international workshop on Sensing, Actuation, Motion Control, and Optimization (SAMCON)*, Kyoto, Japan, 2024.

Kota Fujimoto, Hiroshi Fujimoto, Alessandro Correa Victorino, Pedro Castillo, “Optimal Energy Trajectory Generation Based on Pitch-Dependent Mutual Inductance Model for In-Flight Inductive Power Transfer of Drones,” in *IEEE 18th International Conference on Advanced Motion Control (AMC)*, Kyoto, Japan, 2024, doi: 10.1109/AMC58169.2024.10505445.

Kota Fujimoto, Hiroshi Fujimoto, Yoshihiro Isaoka, Yuki Terada, “High Precision Control for Twin-Drive System Based on Mode Decoupling with Virtual Viscosity: Equivalent Controller Transform for Machine Tool,” in *IEEE 18th International Conference on Advanced Motion Control (AMC)*, Kyoto, Japan, 2024, doi: 10.1109/AMC58169.2024.10505638.

Kota Fujimoto, Sakahisa Nagai, Binh-Minh Nguyen, Hiroshi Fujimoto, “Test Bench Study on Attitude Estimation in Ground Effect Region Based on Motor Current for In-Flight Inductive Power Transfer of Drones,” in *IEEE 2023 The 49th Annual Conference of the IEEE Industrial Electronics Society (IECON)*, Singapore, 2023, doi: 10.1109/IECON51785.2023.10312055.

Yusuke Satoh, **Kota Fujimoto**, Ryo Matsumoto, Sakahisa Nagai, Binh-Minh Nguyen, Hiroshi Fujimoto, “Basic Study on Received Power Control of In-Flight Inductive Power Transfer for Drones by Active Rectifier Switching and Altitude Regulation,” in *IEEE 2023 The 49th Annual Conference of the IEEE Industrial Electronics Society (IECON)*, Singapore, 2023, doi: 10.1109/IECON51785.2023.10312000.

Kota Fujimoto, Takumi Hamada and Hiroshi Fujimoto, “Proposal on Model Based Current Overshoot Suppression of Receiver Side Coil in Drone Wireless Power Transfer System,” in *IEEE 2022 Wireless Power Week (WPW)*, pp. 235-239, Bordeaux, France, 2022, doi: 10.1109/WPW54272.2022.9854039.

NON-PEER-REVIEWED

Kota Fujimoto, Hiroshi Fujimoto, Yoshihiro Isaoka, Yuki Terada, “High Precision Control for Twin-Drive System of Machine Tool Based on Mode Decoupling with Virtual Viscosity: Feedforward Realization of Virtual Viscosity on Two-Inertia System,” in *IEE-Japan Technical Meeting on Mechatronics Control (PSS)*, No. MEC-24-012, Tokyo, 2024.

Kota Fujimoto, Sakahisa Nagai, Binh-Minh Nguyen, Hiroshi Fujimoto, “Motor Current Based Attitude Estimation Considering Ground Effect for In-flight Inductive Power Transfer of Drones: Basic Concept and Test-Bench Evaluation,” in *IEE-Japan 2024 Industry Applications Society Conference (JIASC)*, No. 1-60, Mito City Civic Center, 2024.

Kota Fujimoto, Yusuke Satoh, Sakahisa Nagai, Hiroshi Fujimoto, “Basic Study on Receiving-Side System Design of In-flight Inductive Power Transfer for Drones Considering Weight Limitation,” in *IEE-Japan Joint Technical Meeting on Power Engineering/Power Systems Engineering/Semiconductor Power Converter (SPC)*, No. PE-24-059, PSE-24-071, SPC-24-113, Nagasaki, 2024.

Kota Fujimoto, Hiroshi Fujimoto, Yoshihiro Isaoka, Yuki Terada, “High Precision Control for Twin-Drive System of Machine Tool Based on Mode Decoupling with Virtual Viscosity: Basic Study on Two-Inertia System,” in *IEE-Japan Technical Meeting on Mechatronics Control (PSS)*, No. MEC23011, Tokyo, 2023

Yusuke Satoh, **Kota Fujimoto**, Ryo Matsumoto, Sakahisa Nagai, Binh-Minh Nguyen, Hiroshi Fujimoto, “Basic Study on Flight Altitude and Battery Current Control in In-Flight Wireless Power Transfer for Drones,” in *IEE-Japan Joint Technical Meeting on Power Engineering/Power Systems Engineering/Semiconductor Power Converter (SPC)*, No. SPC23141, Okinawa, 2023.

Kota Fujimoto, Osamu Shimizu, Hiroshi Fujimoto, Jin Katsuya, Tetsu Sato, “Requirement Analysis for Dynamic Wireless Power Transfer with Big Data from Real Vehicles,” in *IEE-Japan Joint Technical Meeting on Power Engineering/Power Systems Engineering/Semiconductor Power Converter (SPC)*, No. SPC23140, Okinawa, 2023.

Kota Fujimoto, Kentaro Yokota, Sakahisa Nagai, Hiroshi Fujimoto, “Modeling and Verification of Pitch-Dependent Coupling Coefficient for WPT to Flying Drone,” in *IEE-Japan 2021 Industry Applications Society Conference (JIASC)*, No. 48, Nagaoka University of Technology, 2021.

Awards, Fellowships, & Grants

AWARDS

- 2022 **APET Excellent Poster Presentation Award 3rd Prize**, Alliance for Advanced Power & Environmental Technology
- 2022 **IEEJ Excellent Presentation Award**, The Institute of Electrical Engineers of Japan

FELLOWSHIP

- 2023 **Fostering Advanced Human Resources to Lead Green Transformation (SPRING GX)**, The University of Tokyo

GRANT

- 2024 **The Dispatch for International Meetings Program**, Fostering Advanced Human Resources to Lead Green Transformation (SPRING GX)
- 2023 **Overseas Travel Expense Assistance**, The Telecommunications Advancement Foundation
- 2022-2023 **La Bourse de Mobilité Internationale de Sorbonne Universités**, Sorbonne Universités
- 2022 **Researcher Overseas Training Grant**, Suzuki Foundation

Teaching/Supervising Experience

- 2021-2024 **Graduate Teaching Assistant**, Electrical and Electronic Engineering, The University of Tokyo

Outreach & Professional Development

SERVICE AND OUTREACH

- 2022-2023 **School Festival**, Operational Staff at Lab Introduction exhibit *Tokyo*
- 2022 **Workshop in Kashiwanoha innovation festival**, Operational Staff at Craft Construction Course of Dynamic Wireless Power Transfer *Chiba*

INTERNSHIP

- 2024 **Université de technologie de Compiègne**, Project internship student *France*
- May-Aug.
- 2023 **Université de technologie de Compiègne**, Project internship student *France*
- Aug.-Nov.
- 2022 **ACSL Ltd.**, R&D Mechatronics team *Tokyo*

PROFESSIONAL MEMBERSHIPS

The Institute of Electrical and Electronics Engineers Graduate Student Member

The Institute of Electrical Engineers of Japan Society Student Member

The Japan Society for Aeronautical and Space Sciences Student Member

Society of Automotive Engineers of Japan Student Member