

研究業績 (2021年6月1日)

長岡技術科学大学
電気電子情報工学専攻
エネルギー・制御システム講座
助教 日下佳祐

【査読付き学術論文 Reviewed papers】 33件

- (1) 日下佳祐, 伊東淳一: 「磁界共振結合による非接触給電の駆動用電源及び受電側整流器に関する一考察」, 電気学会論文誌 D, Vol. 132, No. 8, pp. 849-857 (2012)
- (2) Keisuke Kusaka, Jun-ichi Itoh: “Reduction of Reflected Power Loss in an AC-DC Converter for Wireless Power Transfer Systems,” IEEJ Journal of Industry Applications, Vol. 2, No. 4, pp. 195-203 (2013)
- (3) 日下佳祐, 伊東淳一: 「Dual Active Bridge Converter 動作を応用した非共振型非接触給電システムの基礎検証」, 電気学会論文誌 D, Vol. 136, No.2, pp. 189-197 (2016)
- (4) Keisuke Kusaka, Koji Oriki, Jun-ichi Itoh, Isamu Hasegawa, Kazunori Morita, Takeshi Kondo: “Galvanic Isolation System with Wireless Power Transfer for Multiple Gate Driver Supplies of Medium-voltage Inverter,” IEEJ Journal of Industry Applications, Vol. 5, No. 3, pp. 206-214 (2016)
- (5) 日下佳祐, 伊東淳一: 「伝送周波数と伝送電力に着目した電磁誘導現象を用いた非接触給電システムの開発動向」, 電気学会論文誌 D, Vol. 137, No. 5, pp. 445-457 (2017)
- (6) Kent Inoue, Keisuke Kusaka, Jun-ichi Itoh: “Reduction in Radiation Noise Level for Inductive Power Transfer Systems using Spread Spectrum Techniques,” IEEE Trans. on Power Electronics, Vol. 33, No. 4, pp. 3076-3085 (2018)
- (7) Hiroki Watanabe, Tomokazu Sakuraba, Keita Furukawa, Keisuke Kusaka, Jun-ichi Itoh: “Development of DC to Single-Phase AC Voltage Source Inverter with Active Power Decoupling Based on Flying-Capacitor DC/DC Converter,” IEEE Trans. on Power Electronics, Vol. 33, No. 6, pp. 4992-5004 (2018)
- (8) Keisuke Kusaka, Jun-ichi Itoh: “Development Trends of Inductive Power Transfer Systems Utilizing Electromagnetic Induction with Focus on Transmission Frequency and Transmission Power,” IEEJ Journal of Industry Applications, Vol. 6, No. 5, pp. 1-12 (2017)
- (9) 日下佳祐, 伊東淳一: 「フライングキャパシタ形 DC-DC コンバータにおける複数個のフライングキャパシタ電圧の独立制御」, 電気学会論文誌 D レター, Vol. 138, No. 5, pp. 471-472 (2018)

- (10) 伊東淳一, 谷向一馬, 河村和輝, 長野剛, 日下佳祐: 「スイッチング素子数を削減した無瞬断巻線切り替えが可能な PWM 整流器」, 電気学会論文誌 D, Vol. 138, No. 5, pp. 433-441 (2018)
- (11) 伊東淳一, 櫻庭友和, レホアイ ナム, 渡辺大貴, 日下佳祐: 「電流不連続モードで動作する昇圧形アクティブバッファを用いた単相系統連系インバータ」, 電気学会論文誌 D, Vol. 138, No. 5, pp. 453-462 (2018)
- (12) Satoshi Nagai, Keisuke Kusaka and Jun-ichi Itoh: “ZVRT Capability of Single-phase Grid-connected Inverter with High-speed Gate-block and Minimized LCL Filter Design,” IEEE Transactions on Industry Applications, Vol. 54, No. 5, pp. 5387-5399 (2018)
- (13) 河内 謙吾, 比嘉隼, 日下佳祐, 伊東淳一: 「3 レベル駆動による Dual Active Bridge コンバータのデッドタイム誤差補償法」, 電気学会論文誌 D レター, Vol. 138, No. 12, pp. 944-945 (2018)
- (14) 比嘉隼, 宅間春介, 日下佳祐, 伊東淳一: 「広い電圧駆動範囲に対して動作モード切り替え法を適用した T-type Dual Active Bridge DC-DC コンバータの開発」, 電気学会論文誌 D, Vol. 139, No. 4, pp. 388-400 (2018)
- (15) Jun-ichi Itoh, Kazuki Kawamura, Keisuke Kusaka, Yoshiya Ohnuma, Hiroyuki Koshikizawa, Kazuyuki Abe, “Control of Starter Generator in a UAV with a Micro Jet Engine,” IEEJ Trans. on Industry Applications, Vol. 8, No. 3, pp. 421-429 (2019)
- (16) Keisuke Kusaka, Kent Inoue, Jun-ichi Itoh, “Inductive Power Transfer System for Excavator by considering Large Load Fluctuation,” IEEJ Trans. on Industry Applications, Vol. 8, No. 3, pp. 413-420 (2019)
- (17) 古川啓太, 日下佳祐, 伊東淳一: 「複数巻線を有するワイヤレス電力伝送システムの等価的な結合係数の改善法」, 電気学会論文誌 D, Vol. 139, No. 7, pp. 612-623 (2019)
- (18) Keisuke Kusaka, Keita Furukawa, Jun-ichi Itoh, “Development of Three-Phase Wireless Power Transfer System with Reduced Radiation Noise,” IEEJ Trans. on Industry Applications, Vol. 8, No. 4, pp. 600-607 (2019)
- (19) Keita Furukawa, Keisuke Kusaka, Jun-ichi Itoh, “General Analytical Model of Inductance Variation by EMF-canceling Coil for Inductive Power Transfer System,” IEEJ Trans. on Industry Applications, Vol. 8, No. 4, pp. 660-668 (2019)
- (20) Jun-ichi Itoh, Kazuki Aoyagi, Keisuke Kusaka, Masakazu Adachi, Keisuke Kusaka, “Development of Solid-State Transformer for 6.6-kV Single-Phase Grid with Automatically Balanced Capacitor Voltage,” IEEJ Trans. on Industry Applications, Vol. 8, No. 5, pp. 795-802 (2019)
- (21) Keisuke Kusaka, Kent Inoue, Jun-ichi Itoh, “Comparative Verification of Radiation Noise Reduction Effect using Spread Spectrum for Inductive Power Transfer System,” World Electric Vehicle Journal, Vol. 10, No. 2, pp. 1-12 (2019)

- (22) 永井悟司, 目下佳祐, 伊東淳一: 「高速な還流モード切り替えを適用した小型連系インダクタを有する単相系統連系インバータの FRT 制御」, 電気学会論文誌 D, Vol. 140, No. 1, pp. 1-14 (2020)
- (23) 宅間春介, 大島涼, 目下佳祐, 伊東淳一: 「インダイレクトマトリックスコンバータを用いた絶縁形 DC-AC コンバータのスイッチング損失低減手法」, 電気学会論文誌 D, Vol. 140, No. 3, pp. 130-139 (2020)
- (24) 河内謙吾, 比嘉隼, 渡辺大貴, 目下佳祐, 伊東淳一: 「デッドタイムに起因する非線形電力誤差の補償法における Dual Active Bridge コンバータの電流実効値低減法」, 電気学会論文誌 D, Vol. 140, No. 3, pp. 175-183 (2020)
- (25) 桐淵岳, 財津俊行, 土井昌志, 目下佳祐, 伊東淳一: 「サーボドライブ DC 給電システムのインピーダンス法による安定性解析」, 電気学会論文誌 D, Vol. 140, No. 3, pp. 184-193 (2020)
- (26) 宅間春介, 大島涼, 目下佳祐, 伊東淳一: 「絶縁型 AC-DC マトリックスコンバータのスイッチングリップルの影響を打ち消す入力電流制御法」, 電気学会論文誌 D レター, Vol. 140, No. 8, pp. 623-624 (2020)
- (27) 古川啓太, 目下佳祐, 伊東淳一: 「ワイヤレス給電コイルのリラクタンسネットワーク解析法を用いたモデリング」, 電気学会論文誌 D レター, Vol. 140, No. 10, pp. 791-792 (2020)
- (28) **Keisuke Kusaka**, Nagisa Takaoka, Tomokazu Sakuraba, Hiroki Watanabe, Jun-ichi Itoh, “Single-phase AC Grid-tied Inverter with Buck-type Active Power Decoupling Circuit Operated in Discontinuous Current Mode,” IEEJ Trans. on Industry Applications, Vol. 10, No. 3, pp. 292-302 (2021)
- (29) 古川啓太, 目下佳祐, 伊東淳一: 「漏洩磁界キャンセルコイルを用いたワイヤレス給電システムのキャンセルコイル短絡電流実効値補償に着目した漏えい磁界低減」, 電気学会論文誌 D, Vol. 141, No. 5, pp. 405-415 (2021)
- (30) 塩井太介, 宮下充, 渡辺大貴, 目下佳祐, 伊東淳一, 中西俊貴, 小林和博: 「電流不連続モードを適用したフライングキャパシタ形マルチポートコンバータによるバッテリマネジメントシステムの開発」, 電気学会論文誌 D (掲載決定)
- (31) 橋本裕志, 桐嘉伸, 目下佳祐, 伊東淳一: 「溶接電源に向けた N 相インターリーブ降圧コンバータの制御応答性の検討」, 電気学会論文誌 D, Vol. 141, No. 8 (2021) (掲載決定)
- (32) 山口正通, 目下佳祐, 伊東淳一: 「短絡治具を用いたシャントスルー法による PCB パターン上の寄生インピーダンス測定法」, 電気学会論文誌 D, Vol. 141, No. 7 (2021) (掲載決定)
- (33) 石山柊斗, 目下佳祐, 芳賀仁: 「6in1 パワーモジュールを用いたアクティブパワーデカップリングの一方式」, 電気学会論文誌 D, Vol. 141, No. 9, pp. – (2021) (掲載決

定)

【解説記事】 3件

- (1) 日下佳祐：「ワイヤレス電力伝送システムの漏えい磁界抑制手法」，月刊車載テクノロジー，技術情報協会，Vol. 6, No. 7, pp. 54-58 (2019)
- (2) 日下佳祐：「パワーエレクトロニクス全般における給電技術と応用展開」，電気設備学会誌，Vol. 39, No. 9, pp. 557-560 (2019)
- (3) 日下佳祐：「ワイヤレス給電用電力伝送コイルの冷却技術」，月刊車載テクノロジー，技術情報協会，Vol. 7, No. 10, pp. 39-42 (2020)

【著書】 3件

- (1) 日下佳祐：「EV・HEV向け電子部品、電装品開発とその最新事例」，技術情報協会，ISBN-10: 4861047293, 2018年11月発刊，分担執筆
- (2) 「電気自動車のモーションコントロールと走行中ワイヤレス給電」，株式会社エヌ・ティー・エス，ISBN-10:4860436067, 2019年5月発刊，分担執筆
- (3) 電気学会ワイヤレス電力伝送システムにおけるパワーエレクトロニクス技術調査専門委員会編：「パワーエレクトロニクスにおけるワイヤレス電力伝送技術」，電気学会産業応用部門半導体電力変換技術委員会，Vol. 1495, ISSN:0919-9195, 2020年10月発刊，分担執筆

【査読付き国際会議論文 International Conference papers】 52件

- (1) **Keisuke Kusaka**, Jun-ichi Itoh, “Experimental Verification of Rectifiers with SiC/GaN for Wireless Power Transfer Using a Magnetic Resonance Coupling”, The 9th IEEE International Conference on Power Electronics and Drive Systems, pp. 1094-1099 (2011)
- (2) **Keisuke Kusaka**, Jun-ichi Itoh, “Proposal of Switched-mode Matching Circuit in Power Supply for Wireless Power Transfer Using Magnetic Resonance Coupling”, The Applied Power Electronics Conference and Exposition 2012 (APEC2012), pp. 653-660 (2012)
- (3) **Keisuke Kusaka**, Jun-ichi Itoh, “Input Impedance Matched AC-DC Converter in Wireless Power Transfer for EV Charger”, The 15th International Conference on Electrical Machines and Systems 2012 (ICEMS2012), No. LS2A-2 (2012)
- (4) **Keisuke Kusaka**, Jun-ichi Itoh, “Experimental Verification and Analysis of AC-DC Converter with an Input Impedance Matching for Wireless Power Transfer Systems”, The 15th European Conference on Power Electronics and Applications (EPE2013), No. 322

(2013)

- (5) **Keisuke Kusaka**, Jun-ichi Itoh, “Experimental Verifications and Design Procedure of an AC-DC Converter with Input Impedance Matching for Wireless Power Transfer Systems”, IEEE Energy Conversion Congress and Exposition 2013 (ECCE2013), pp. 2574-2581 (2013)
- (6) Natthaphon Phokhaphan, Krit Choeisai, Kenji Noguchi, Takahiro Araki, **Keisuke Kusaka**, Koji Orikawa, Jun-ichi Itoh, “Wireless power transfer based on MHz inverter through PCB antenna”, The 1st International Future Energy Electronics Conference (IFEEEC) 2013, pp.126, No. 130, pp. 3-6, (2013)
- (7) **Keisuke Kusaka**, Koji Orikawa, Jun-ichi Itoh, Kazuhiro Morita, Kuniaki Hirao, “Isolation System with Wireless Power Transfer for Multiple Gate Driver Supplies of a Medium Voltage Inverter”, The 2014 International Power Electronics Conference (IPEC2014), No. 192-6 (2014)
- (8) Ayato Sagehashi, **Keisuke Kusaka**, Koji Orikawa, Jun-ichi Itoh: “Pattern Design Criteria of Main Circuit Using Printed Circuit Boards for Parasitic Inductance Reduction”, The 16th Power Electronics and Motion Control Conference and Exposition 2014, No. 195, pp. 677-682 (2014)
- (9) **Keisuke Kusaka**, Masakazu Kato, Koji Orikawa, Jun-ichi Itoh, Isamu Hasegawa, Kazunori Morita, Takeshi Kondo, “Galvanic Isolation System for Multiple Gate Drivers with Inductive Power Transfer — Drive of Three-phase Inverter —”, IEEE Energy Conversion Congress and Exposition 2015 (ECCE2015), pp. 4525-4532 (2015)
- (10) Ayato Sagehashi, **Keisuke Kusaka**, Koji Orikawa, Jun-ichi Itoh: “Current Source Gate Drive Circuits with Low Power Consumption for High Frequency Power Converters”, The 9th International Conference on Power Electronics, No. WeH1-1 (2015)
- (11) Hiroki Watanabe, **Keisuke Kusaka**, Keita Furukawa, Jun-ichi Itoh: “DC to Single-phase AC Voltage Source Inverter with Power Decoupling Circuit Based on Flying Capacitor Topology for PV System”, The Applied Power Electronics Conference and Exposition (APEC) 2016, No. T27.1, pp. 1336-1343 (2016)
- (12) **Keisuke Kusaka**, Kent Inoue, Jun-ichi Itoh: “Reduction in Radiation Noise Level for Inductive Power Transfer System with Spectrum Spread”, EVTeC & APE Japan 2016, No. 20169063 (2016)
- (13) Jun-ichi Itoh, Tomokazu Sakuraba, **Keisuke Kusaka**, Hiroki Watanabe, Keita Furukawa: “Comparison of Circuit Topologies for Active Power Decoupling toward High Power Density”, The 8th International Power Electronics and Motion Control Conference 2016, pp. 421-428 (2016)
- (14) Jun-ichi Itoh, Tomokazu Sakuraba, Hoai Nam Le, **Keisuke Kusaka**: “Requirements for Circuit Components of Single-Phase Inverter Applied with Power Decoupling Capability

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- (15) Kent Inoue, **Keisuke Kusaka**, Jun-ichi Itoh: “Reduction on Radiation Noise Level for Inductive Power Transfer Systems with Spread Spectrum focusing on Combined Impedance of Coils and Capacitors”, IEEE Energy Conversion Congress & Exposition 2016, No. 308 (2016) **【Best paper award】**
- (16) Jun-ichi Itoh, Tomokazu Sakuraba, Le Hoai Nam, **Keisuke Kusaka**: “DC to Single-phase AC grid-connected inverter with Boost Type Active Buffer Circuit Operated in Discontinuous Current Mode”, Symposium on Semiconductor Power Conversion 2016, No. ps1-2, JP2 (2016)
- (17) Satoshi Nagai, **Keisuke Kusaka**, Jun-ichi Itoh: “FRT Capability of Single-phase Grid-connected Inverter with Minimized Interconnected Inductor”, Applied Power Electronics Conference and Exposition 2017 (2017)
- (18) Satoshi Nagai, **Keisuke Kusaka**, Jun-ichi Itoh: “ZVRT Capability of Minimized-LCL-filter-based Single-phase Grid-tied Inverter with High-speed Gate-block”, IEEE Energy Conversion Congress & Exposition 2017, pp. 1757-1764 (2017)
- (19) Jun-ichi Itoh, Keita Furukawa, **Keisuke Kusaka**: “Power Factor Correction Focusing on Magnetic Coupling of Parallel-connected Wires for Inductive Power Transfer System”, IEEE Energy Conversion Congress & Exposition 2017, pp. 133-140 (2017)
- (20) **Keisuke Kusaka**, Kent Inoue, Jun-ichi Itoh: “Radiation Noise Reduction using Spread Spectrum for Inductive Power Transfer Systems considering Misalignment of Coils”, IEEE Energy Conversion Congress & Exposition 2017, pp. 5507-5514 (2017)
- (21) **Keisuke Kusaka**, Jun-ichi Itoh: “Three-phase Inductive Power Transfer System with 12 coils for Radiation Noise Reduction”, International Power Electronics Conference 2018, No. 21A1-1 (2018)
- (22) Jun-ichi Itoh, Kent Inoue, **Keisuke Kusaka**: “Development of Inductive Power Transfer System for Excavator under Large Load Fluctuation”, International Power Electronics Conference 2018, No. 21-A2-4 (2018)
- (23) Keita Furukawa, **Keisuke Kusaka**, Jun-ichi Itoh: “General Analytical Model for Inductive Power Transfer System with EMF Canceling Coils”, International Power Electronics Conference 2018, No. 23B4-4 (2018)
- (24) Jun-ichi Itoh, Kazuki Aoyagi, **Keisuke Kusaka**, Masakazu Adachi: “Single-phase Solid-State Transformer using Multi-cell with Automatic Capacitor Voltage Balance Capability”, International Power Electronics Conference 2018, No. 23F1-1 (2018)
- (25) Nagisa Takaoka, **Keisuke Kusaka**, Hayato Higa, Jun-ichi Itoh: “Novel DC to Single-Phase Isolated AC Converter using Coupled Inductor with Power Decoupling Capability”, 20th

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- (26) Takahiro Kumagai, **Keisuke Kusaka**, Jun-ichi Itoh: “Torque Ripple Reduction Method with Minimized Current RMS Value for SRM Based on Mathematical Model of Magnetization Characteristic”, 20th European Conference on Power Electronics and Applications, No. LS2d, pp. 1-10 (2018)
- (27) Jun-ichi Itoh, Kyota Asai, **Keisuke Kusaka**, Satoshi Nagai: “Expansion of FRT Operation Range and Reduction of Grid Current Distortion for Grid-tied Matrix Converter,” IEEE Energy Conversion Congress & Exposition 2018, pp. 560-567 (2018)
- (28) Shunsuke Takuma, **Keisuke Kusaka**, Jun-ichi Itoh: “Single-step commutation method for three-phase to single-phase matrix converter,” Energy Conversion Congress Exposition 2018, pp. 6228-6235 (2018)
- (29) Jun-ichi Itoh, Rhoichi Ishibashi, Hoai Nam Le, Nagisa Takaoka, **Keisuke Kusaka**, Katsutaka Tanabe: “Control Method of Flying Capacitor Converter Operated in Discontinuous Current Mode and Critical Current Mode,” Energy Conversion Congress Exposition 2018, Vol. , No. , pp. 155-161 (2018)
- (30) **Keisuke Kusaka**, Keita Furukawa, Jun-ichi Itoh: “Radiative Noise Reduction Technique using 12 Coils Suitable for High-power Inductive Power Transfer,” Energy Conversion Congress Exposition 2018, No. , pp. 6179-6186 (2018)
- (31) Kent Inoue, **Keisuke Kusaka**, Jun-ichi Itoh: “Comparative Verification of Radiation Noise Reduction Effect using Spread Spectrum for Inductive Power Transfer System,” EVS31&EVTeC2018 (2018)
- (32) Masakazu Adachi, **Keisuke Kusaka**, Jun-ichi Itoh: “Multi-Modular Isolated Three-phase AC-DC Converter for Rapid Charging with Autonomous Distributed Control,” EVS31&EVTeC2018 (2018)
- (33) Akiyoshi Omomo, Jun-ichi Itoh, **Keisuke Kusaka**, Jun-ichi Itoh: “T-type NPC Inverter with Active Power Decoupling Method using Discontinuous Current Mode for Micro-Inverter,” 7th International Conference on Renewable Energy Research and Applications 2018, pp. 1147-1152 (2018)
- (34) Jun-ichi Itoh, Kengo Kawauchi, Hiroki Watanabe, **Keisuke Kusaka**: “Reduction of Transmission Power Error and Current for Dual Active Bridge DC-DC Converter in Energy Storage Systems,” 7th International Conference on Renewable Energy Research and Applications 2018, pp. 1135-1140 (2018)
- (35) Jun-ichi Itoh, Ryoichi Ishibashi, Nam Hoai Le, **Keisuke Kusaka**: “Control Method of Flying Capacitor Converter Operated in Discontinuous Current Mode and Critical Current Mode,” 6th International Conference on Smart Grid, No. 68 (2018)
- (36) Akiyoshi Omomo, Hoai Nam Le, **Keisuke Kusaka**, Jun-ichi Itoh: “Loss Analysis of T-type

- NPC Inverter with Active Power Decoupling Capability Operated in Discontinuous Current Mode,” IEEE Workshop on Wide Bandgap Power Devices and Applications in Asia (WiPDA Asia), pp. 1-4 (2019)
- (37) Le Hoai Nam, Satoshi Nagai, **Keisuke Kusaka**, Jun-ichi Itoh: “Switching Device Number Reduction for Three-Phase Cascade-Modular Solid-State Transformer System with Employment of Three-Phase T-Type Converter,” IEEE Energy Conversion Congress and Exposition 2019, pp. 1093-1100 (2019)
- (38) Shunsuke Takuma, **Keisuke Kusaka**, Jun-ichi Itoh: “DC Ripple Component Cancellation Method of Isolated AC-DC Converter with Matrix Converter for Input Current Harmonics Reduction,” IEEE Energy Conversion Congress and Exposition 2019, pp. 6754-6751 (2019)
- (39) Hayato Higa, Hiroki Watanabe, **Keisuke Kusaka**, Jun-ichi Itoh, “Voltage Control Method with Non-linear Compensation and DC-Offset Elimination for One-leg T-type Dual Active Bridge Converter using Multi-Operation Mode,” IEEE Energy Conversion Congress and Exposition (ECCE) 2019, pp. 6828-6835 (2019)
- (40) Jun-ichi Itoh, Mitsuru Miyashita, **Keisuke Kusaka**, Yuichi Noge, Masaki Ishibashi, “Multi-port Converter with Square-wave-voltage Multilevel Converter and Active Power Filter Connected in Series,” IEEE Energy Conversion Congress and Exposition (ECCE) 2019, pp. 6388-6395 (2019)
- (41) **Keisuke Kusaka**, Rintaro Kusui, Jun-ichi Itoh, Daisuke Sato, Shuichi Obayashi, Masaaki Ishida, “A 22 kW-85 kHz Three-phase Wireless Power Transfer System with 12 coils,” IEEE Energy Conversion Congress and Exposition (ECCE) 2019, pp. 3340-3347 (2019)
- (42) Shunsuke Takuma, **Keisuke Kusaka**, Jun-ichi Itoh, Yoshiya Ohnuma, Satoshi Miyawaki, “A Novel Current Ripple Cancellation PWM for Isolated Three-phase Matrix DAB AC-DC Matrix Converter,” 21st European Conference on Power Electronics and Applications (EPE '19 ECCE Europe), pp. 1-10 (2019)
- (43) Jun-ichi Itoh, Koki Yamanokuchi, Shunsuke Takuma, **Keisuke Kusaka**, “Three-phase Wireless Power Supply System Using Matrix Converter,” 21st European Conference on Power Electronics and Applications (EPE '19 ECCE Europe) 2019, pp. 1-10 (2019)
- (44) Takeshi Kiribuchi, Toshiyuki Zaito, Masashi Doi, **Keisuke Kusaka**, Jun-ichi Itoh, “Impedance-Based Stability Analysis of DC Bus System for Servo Drives,” 21st European Conference on Power Electronics and Applications (EPE '19 ECCE Europe) 2019, pp. 1-7 (2019)
- (45) Keita Ohata, Masakazu Adachi, **Keisuke Kusaka**, Jun-ichi Itoh, “Three-phase AC-DC Converter for EV Rapid Charging with Wireless Communication for Decentralized Controller,” 10th International Conference on Power Electronics and ECCE Asia (ICPE 2019 - ECCE Asia) 2019, pp. 3033-3039 (2019)

- (46) Jun-ichi Itoh, Kengo Kawauchi, Hayato Higa, Hiroki Watanabe, **Keisuke Kusaka**, “Voltage Control Method in Non-linear Dead-time Effect Region for Dual Active Bridge DC-DC Converter,” 10th International Conference on Power Electronics and ECCE Asia (ICPE 2019 - ECCE Asia) 2019, pp. 1-8 (2019)
- (47) Taisuke Shioi, Mitsuru Miyashita, Satoshi Nagai, **Keisuke Kusaka**, Jun-ichi Itoh, “Battery Management System with Flying Capacitor Converter Operated in Discontinuous Current Mode,” 20th International Symposium on Power Electronics (Ee) 2019, pp. 1-6 (2019)
- (48) Keita Furukawa, **Keisuke Kusaka**, Jun-ichi Itoh: “Computational Model of Coils for Wireless Power Transfer with Reluctance Network Analysis,” 20th International Symposium on Power Electronics (Ee) 2019, pp. 1-6 (2019)
- (49) A. Omomo, H. N. Le, **K. Kusaka**, J. Itoh, “Loss Analysis of T-type NPC Inverter with Active Power Decoupling Capability Operated in Discontinuous Current Mode,” WiPDA2019, No. B1-4, pp. (2019)
- (50) Y. Ouchi, **K. Kusaka**, J. Itoh, “Auxiliary Power Supply for Marx Circuit with Transformers inserted into Charging Path of Marx Capacitors”, S2PC2018, No. JP19 (2019)
- (51) T. Kumagai, **K. Kusaka**, J. Itoh, “Reduction Method of Current RMS Value, DC Current Ripple, and Radial Force Ripple for SRM based on Mathematical Model of Magnetization Characteristic.” IEEE INTERNATIONAL FUTURE ENERGY ELECTRONICS CONFERENCE IFEEC2019, No. 1123 (2019)
- (52) J. Itoh, K. Mizoguchi, Le Hoai Nam, **K. Kusaka**, “Design Method of Cooling Structure Considering Load Fluctuation of High-power Wireless Power Transfer System,” IEEE INTERNATIONAL FUTURE ENERGY ELECTRONICS CONFERENCE IFEEC2019, No. 1126 (2019)

【特許（国内出願）】 6件

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|-----|----------------------------|----------------|
| (1) | 「マルクス回路用駆動電源供給手段」 | 特願 2019-152668 |
| (2) | 「電子回路および無線電力伝送装置」 | 特願 2019-143225 |
| (3) | 「電力変換回路」 | 特願 2019-126222 |
| (4) | 「設計支援装置，設計支援方法及び設計支援プログラム」 | 特願 2019-010593 |
| (5) | 「放電装置及びその制御方法」 | 特願 2020-079724 |
| (6) | 「電源装置」 | 特願 2021-049653 |

【受賞歴】 12 件

- 2012 年 8 月 電気学会優秀論文発表賞 A
- 2013 年 4 月 電気関係学会関西連合大会奨励賞
- 2014 年 8 月 電気学会優秀論文発表賞 A
- 2015 年 3 月 電子情報通信学会無線電力伝送研究会若手奨励賞
- 2015 年 8 月 電気学会優秀論文発表賞
- 2016 年 3 月 長岡技術科学大学学長賞
- 2016 年 3 月 自動車技術会大学院研究奨励賞
- 2016 年 9 月 IEEE Energy Conversion Congress & Exposition 2016, Best Paper Award
- 2018 年 5 月 The 2018 International Power Electronics Conference IPEC-Niigata 2018, The Second Prize Paper Award
- 2019 年 8 月 自動車技術会 技術部門貢献賞
- 2020 年 12 月 2010 IEEE 9th International Power Electronics and Motion Control Conference (IPEMC 2020-ECCE Asia), Best Paper Award
- 2021 年 3 月 電気学会優秀論文発表賞

以上